THE NEW GLUTTON OR EPICURE

by

Horace Fletcher

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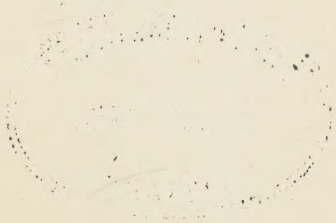

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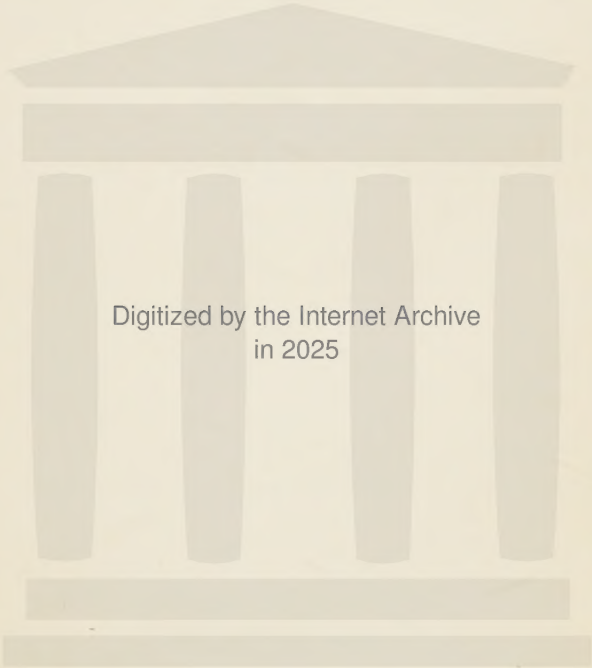

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THE NEW
GLUTTON OR EPICURE

HORACE FLETCHER'S WORKS

THE A. B.-Z. OF OUR OWN NUTRITION. 450 pp. Just issued.

THE NEW MENTICULTURE; OR, THE A-B-C OF TRUE LIVING. Fortieth thousand. 310 pp.

THE NEW GLUTTON OR EPICURE; OR, ECONOMIC NUTRITION. 344 pp. Just issued.

HAPPINESS AS FOUND IN FORETHOUGHT MINUS FEARTHOUGHT. Tenth thousand. 251 pp.

THAT LAST WAIF; OR, SOCIAL QUARANTINE. 270 pp.

THE NEW GLUTTON OR EPICURE

BY

HORACE FLETCHER

NEW YORK
FREDERICK A. STOKES COMPANY
1903

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Published November, 1903

THE UNIVERSITY PRESS
CAMBRIDGE · U. S. A.

PREFACE

The original "Glutton or Epicure" has been completely revised and much enlarged, including considerable new matter added in the form of testimony by competent investigators, which confirms the original claims of the book and supplements them with important suggestions.

The "New Glutton or Epicure" is now issued as a companion volume to the "A.B.-Z. of Our Own Nutrition," in the "A. B. C. Series," and is intended to broaden the illustration of the necessity of dietetic economy in the pursuit of an easy way to successful living, in a manner calculated to appeal to a variety of readers; and wherein it may suggest the scrappiness and extravagance of an intemperate screed, the author joins in

the criticism of the purists and offers in apology the excuse that so-called screeds sometimes attract attention where more sober statement fails to be heard.

Especial attention is invited to the "Explanation of the A.B.C. Series," at the back of this volume, as showing the desirability of regard for environment in all its phases; and also to the section, "Tell-tale Excreta," on page 142, an evidence of right or faulty feeding persistently neglected heretofore, but of utmost importance in a broad study of the nutrition problem.

The professional approval of Drs. Van Someren, Higgins, Kellogg, and Dewey, representing wide differences of points of view and opportunity of application, are most valuable contributions to the subject. The confirmation of high physiological authority strengthens this professional endorsement. The testimony of lay colleagues given is equally valuable and comes from widely separated experiences, and from observers

whose evidence carries great weight. The commandante of a battleship cruising in foreign waters and representing the national descent of Luigi Cornaro; a general manager of one of the largest insurance companies of the world; a cosmopolitan artist of American farm birth and French matrimonial choice and residence; and a distinguished *bon vivant*, each with a world of experience, testifying in their own manner of expression, is appreciated as most valuable assistance to the cause of economic dietetic reform.

During the original experiments in Chicago, and in Dayton, Ohio, the originator was much indebted to James H. Lacey, Esquire, of New Orleans, La., and Cedar Rapids, for helpful suggestions, which his early training as a pharmaceutical chemist rendered him able to give.

There are also numerous altruistic, self-sacrificing women, who have been active colleagues of the author in testing

the virtues of an economic nutrition, and who have greatly assisted in making the economy an added new pleasure of life, instead of being a restraint or a deprivation. This is accomplished easily by a change of attitude towards the question, and in such reform women must have an important part to play. To their kindly meant, but hygienically unwise, aggressive hospitality, in begging friends to eat and drink more than they want, just to satisfy their own generous impulses, is due much of the milder gluttony that is prevalent.

Imposition upon the body of any excess of food or drink is one of the most dangerous and far-reaching of self-abuses; because whatever the body has no need of at the moment must be gotten rid of at the expense of much valuable energy taken away from brain-service. Hence it is that when there is intestinal constipation the energy-reserve is lowered enormously, and even where there is no painful obstruction, the mere pas-

sage of waste through some twenty to twenty-five feet of convoluted intestinal canal is a great tax upon available mental and physical power; and this disability is often imposed on innocent men by well-meaning women in the exercise of a too aggressive hospitality.

Mention of constipation suggests another reference to one of the specially new features of this discussion, insisted upon by a truly economic and æsthetic nutrition, and herein lifted out of the depths of a morbid prejudice to testify to the necessity of care in the manner of taking food for the maintenance of a respectable self-respect. So firmly rooted is the fallacy that a daily generous defecation is necessary to health that less frequent periodicity is looked upon with alarm, whereas a normally economic nutrition is *proven* by greater infrequency, accompanied by an entire absence of difficulty in defecating and by escape from the usual putridity due to the necessity of bacterial decomposition.

To illustrate the prevailing ignorance relative to this most important necessity of self-care, and also a traditional prejudice, even among physicians, the following extract from a letter just received is given: "You ask me to define more exactly what I mean by constipation; this is not at all difficult; I mean skipping a day in having a call to stool. There was no trouble about it, and the quantity was not large, but when I mentioned it to my doctor he advised me to stop chewing if it interfered with the regular daily stools. I must confess that I never felt so well as while I was chewing and sipping, instead of the hasty bolting and gulping which one is apt to do on thoughtless or busy occasions, but I don't think it is worth while for a chap to monkey with his hygienic department when he is employing a professional regularly to tell him the latest kink about health." To this surprising state of . . . the evidence of "professionals" like Van Someren, Kellogg, Higgins,

and Dewey, as well as that of the great men of physiology who have spoken herein, and in the "A.B.-Z. of Our Own Nutrition," gives hopeful answer, but suggests a warning.

The author has noticed that immediately folk begin to give attention to any new *régime* relative to diet, exercise, mental discipline, or whatever else, they begin to charge all unusual happenings to the change of habit, whereas before the same things were common but unnoticed. Even among men of scientific habit of thought, unduly constipated by stale conservatism, the old, old corpse of tradition, "The accumulated experience of the whole race must be correct," is revived and used in argument contentiously; but to this relapse into non-scientific reasoning comes the reply: "If the accumulated experience of the human race is evidence that crime and disease are natural, then disease and crime are good things and should not be discouraged."

There are many sorts of constipation, the worst of which are constipation of affection, of appreciation, of gratitude, and of all the constructive virtues which constitute true altruism. Let us avoid sinning in this regard! In pursuit of this thought the following is *apropos:*

SPECIAL RECOGNITION

The author wishes here, also, to express gratitude to many who have not figured by name in the "A.B.-Z.," or elsewhere herein, but whose assistance, encouragement, criticism, and example have helped the cause along in one way or another. Of these many friends a few are quickly recalled, but not necessarily in the order of their friendly service. To John H. Patterson, Esquire, of Dayton, Ohio; Col. James F. O'Shaughnessy, of New York; Stewart Chisholm, Esquire, of Cleveland, Ohio; Fred E. Wadsworth, Esquire, of Detroit, Michigan; and Henry C. Butcher, Esquire, of Philadelphia, are due much for encour-

agement in pursuing the investigation at critical moments of the struggle; as well as to Hon. William J. Van Patten, of Burlington, Vermont, whose interest in the "A.B.C. Series" began with "Menticulture" and has continued unabated. In Dr. Swan M. Burnett, of Washington, D. C., has been enjoyed a mentor with great scientific discrimination and a sympathy in the refinements of art and sentiment, as expressed in Japanese æsthetic civilisation, which has been extremely encouraging and most inspiring in relation to the whole A.B.C. idea.

From Gervais Kerr, Esquire, of Venice, came one of the important suggestions incorporated in the A.B.-Z. Primer; and the young Venetian artist, E. C. Leon Boehm, rendered great service in studying habits of dietetics among the peoples of the Balkan Peninsular, in Turkey, along the Dalmatian Coast, and in Croatia.

Prof. William James, of Harvard University, in his Gifford Lectures at

the University of Edinburg, Scotland, published under the title of "The Varieties of Religious Experience," gave the practical reformatory effort of the "A.B.C. Series" a great impetus by quoting approvingly from "Menticulture" and "Happiness." Coming from a teacher of philosophy and psychology, with a physiological training and an M.D. degree to support the approval, recognition is much appreciated; but, in addition to his published utterances, Dr. James has followed the psychophysiological studies of the movement with interest, and has given much valued encouragement.

This does not begin to complete the list of those to whom the author owes a debt of especial gratitude. The argus-eyed vigilance of the collectors and doctors of world-news, who mould public opinion in a great measure, has brought to the cause of dietetic reform established upon an æsthetic basis their kindly assistance, but, as usual, they

prefer to remain *incog.* In this seclusion, however, Ralph D. Blumenfeld, Esquire, of London, and Roswell Martin Field, Esquire, of Chicago, cannot be included; neither can Charles Jay Taylor, the originator of the Taylor-Maid girl. James P. Reilly, Esquire, of New York, has lightened the labours of the investigator, and has strengthened his arm in many ways; as have also Messrs. B. F. Stevens and Brown, of London, not alone as most efficient agents, but as friends interested in the cause in hand. In the various books of the series opportunity has occurred to express appreciation of many sympathetic friendships, and in heart and memory they hold perpetual carnival. To Major Thomas E. Davis, of the *New Orleans Picayune*, is due more than mere expression of gratitude for excellent editorials on our subject; and across the ocean, Sir Thomas Barlow, the private physician of King Edward VII, Dr. Leonard Huxley, Prof. Alfred Marshall, of Cambridge Univer-

sity, and Reginald Barratt, Esquire, of London, have been most sympathetic and assistful. On both sides of the waters, William Dana Orcutt, Esquire, of The University Press, Cambridge, Massachusetts, and Frederick A. Stokes, Esquire, of New York, have added friendship for the cause to much appreciated practical assistance.

These and many others are preferred-creditors of gratitude, in addition to those whose mention is embodied elsewhere in the various books of the "Series."

As attempted to be shown in the "A.B.-Z.," under the caption "Bunching Hits and Personal Umpiring," this study of menticulture from the basis of economic and epicurean nutrition, in connection with a purified exterior and interior environment, is "team-work," as in football, cricket, or base-ball, and a laudable enthusiasm is an important feature of the game; hence, to conclude, this especial book, being a personal con-

fession, relaxation, effusion, expansion, as it were, of the practical benefits of economic body nutrition and *menti-nutrition*, it seems the appropriate place to offer personal tribute outside and inside the intimate family relations, as freely as menticultural impulse may suggest.

HORACE FLETCHER.

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THE NEW

GLUTTON OR EPICURE

It is now five years since the first section of this crude little announcement of a great physiological discovery was published; and while the author has spent all the intervening years in unremitting study of the subject of which it treats, with the heads of many of the great physiological laboratories of the world assisting him with their best facilities and information, as to the "reasons for things," there is but small correction to make.

This does not imply that the "last word" upon the subject has been herein stated, or that corrections may not be made as the study progresses, but it means, that as an honest description of an effort to get to understand the natural

requirements in our own nutrition, it is perhaps better put than the same author could now do; that is, if intended for the enlightenment of persons whose curiosity has not yet been excited, or whose interest in their nutritive welfare is still young and inexperienced.

With regard to the statement that "whatever has no taste is not nutritious," copied from a high educational authority, correction certainly must be made. Pure proteid has no perceptible taste as measured by taste-bud appreciation, any more than pure water has specific taste, and yet who may not say that "water tastes good" when one is really thirsty. Taste is a very subtle sense and is closely allied to feeling. Things are often said to taste good because they feel good in the mouth or to the throat as they descend to the stomach.

Regarding also the advice to remove from the mouth refractory substance that the teeth and saliva cannot reduce to a

condition to excite the Swallowing Impulse. There is theoretical and actual nutriment in the cottony fibre of tough lobster, or poor fish, or lean pork, and there is good reason to believe that a strong digestive apparatus *can* take care of such tough substance *after a fashion* and get nutriment out of it. In the same way the hard, woody fibre of old nuts is the identical material that was rich in juicy oils and proteid when the nuts were fresh, but if swallowed in the toughened condition that age brings to nuts, it is but slowly reduced in the stomach and intestines and only at enormous expense. If putrifactive bacterial decomposition has to be resorted to to get rid of the stuff the process is then poisonous as well as difficult.

According to physiological authority which we must, for the moment, accept, proteid is a vitally-necessary material and we cannot afford to waste it. Our life depends upon proteid to replace the waste of muscular tissue which occurs

with every movement, but when even good proteid is found by the mouth to be in a form that is too refractory for the teeth to handle, it is poor policy to send it on to the toothless stomach and intestines for the accomplishment of the reduction. If the mouth cannot handle what its guardian senses don't like, it can spit it out and get rid of it immediately; but if the stomach or intestines are afflicted with something that is harder than they can easily take care of, they have to call in the assistance of bacterial scavengers whose method is poisonous decomposition, and whose fee is putridity of odour penetrating the whole system and issuing at every pore, making Cologne water a large commodity even in so-called Polite Society.

There are discernible in the mouth distinct senses of discrimination against substance that is undesirable for the system. If the mouth senses are permitted to express an opinion, their antipathy is easily read. It is far safer to

spit out what the natural impulse of swallowing hesitates at, or fails to suck up with avidity, than it is to force a swallowing to get rid of it simply to satisfy a prudish "table manner" objection. To avoid "impolite" condemnation we really make "hogs of ourselves" "on the sly," and vulgar slang alone is appropriate to express the shameful confession.

As a matter of fact, if one faithfully practise mouth thoroughness in connection with all his food for a term of a few weeks, he will find that the appetite ceases to invite the sort of things that have to be spit out. The appetite gradually but unfailingly inclines to foods that are profitable all the way through, and in which there is little or no waste. This revelation alone shows a delicate usefulness of Appetite that has escaped students of the human senses.

In the matter of the insalivation of liquids, evidence continues to accumulate to show that in the present prevalence

of liquid or soft foods lies the great danger to the digestive economy of man. Through them, mouth work becomes neglected, and the tendency is to force the stomach and intestines to take on the work of the powerful mouth muscles and glands in addition to their own work, and in the straining that ensues trouble begins.

There is *now* no doubt but that taste is evidence of a chemical process going on that should not be interrupted or transferred to the interior of the body. Tried upon milk for so long a period as seventeen days, during which nothing was taken but milk, not even water, thorough insalivation secured more than a twenty-five per cent economy in actual assimilation; not alone with one subject, but with no less than five persons, living on milk from the same cow, and all of whose strict test history was recorded. It seems also to be the only way in which a practically odourless solid excreta is obtainable, and this is certainly

evidence worth considering and a desideratum worth striving for.

While it is an excellent thing to give thorough mouth attention to anything taken into the body, to solids alone, even if liquids are neglected, the best economic and cleanly results are only obtained when all substances, both liquid and solid, are either munched or tasted out of existence, as it were, and have been absorbed into a waiting and willing body; a body with an *earned* appetite.

With liquids one simply has to do as the wine-tasters and the tea-tasters do. Small sips are intaken and the liquid is tasted between the top of the tongue (the spoon end) and the roof of the mouth until all the taste is tasted out of it, and the Swallowing Impulse has claimed it. This is by no means a disagreeable task, and as soon as the unnaturally acquired habit of greed and impatience is conquered, the reward of following this natural requirement is

very great and increases with practice. Five years of experience has taught the author that a really keen appreciation of taste and its delicacy of possible refinement is not known to persons of ordinary habits of life. The pleasure which comes with conformity with the natural requirements is truly Epicurean and disregard of them is as surely gluttonous.

The author still claims discovery of a distinct physiological function which he first named "Nature's Food Filter." Van Someren preferred the name of a "New Reflex of Deglutition." It is, in fact, the "Natural Swallowing Impulse," *invited only* by food mechanically and chemically *prepared* for passing on to the interior, call it by whatever name you like or may.

At the time this little book was first published, the only note in favour of giving special attention to "buccal digestion," that had been sounded, was the advice of Mr. Gladstone to his children, "Chew your food thirty-two times

to each mouthful," or words to that effect. The "Masticate well" prescription of the physician when given at all, had meant little or nothing, to either the patient or to the prescriber, except that one must not swallow hard food whole.

For two years after its publication little heed was given to the suggestion because the author happened not to be a medical man, but, finally, the reserve of indifference was broken, first by Dr. Joseph Blumfeld, in a review of the book in the London *Lancet*, and soon after by Dr. Ernest Van Someren of Venice, Italy, an English physician residing and practising in Venice. Dr. Van Someren's interest and experience are best stated in his *own words*, as follows:

THE PERSONAL "CASE" AND "ENDORSEMENT"

OF

DR. ERNEST VAN SOMEREN

AN

ENGLISH PHYSICIAN AND SURGEON, PRACTISING IN VENICE, ITALY

"My dear Mr. Fletcher:

"It would be almost *àpropos* to send you, as an endorsement of your principles, the dictum of the ragged and dirty tramp in the advertisement of Pear's soap. I would have to amend it slightly and say: 'I used your {principles / soap} three years ago; since when I have used no other.' I say '*almost àpropos*' advisedly, for, while the soap claims to keep the outer man clean, the practice of your principles justly claims to keep the inner man sweet and clean, so lessening the need to cleanse the outer man!

"A well-known English surgeon (I think Sir Wm. Mitchell Banks) recommends physicians and surgeons to take

a leaf from the book of patent-medicine vendors, and make their patients testify to their successful treatment. I will take the hint and give you, as my 'doctor,' a testimonial of how personally I am benefited by your advice.

"Three years ago, when I first met you, though under thirty years of age, and myself a practising physician and surgeon, I was suffering from gout, and had been under the *régime* of a London specialist for the treatment of that malady. Though vigorously adhering to the prescribed diet, I suffered from time to time. My symptoms were typical — paroxysmal pain in my right great toe and in the last joints of both little fingers, the right one being tumefied with the well-known 'node.' From time to time, generally once a month, I suffered from incapacitating headaches. Frequent colds, boils on the neck and face, chronic eczema of the toes, and frequent acid dyspepsia were other and painful signs that the life I was

leading was not a healthy one. Yet I was accounted a healthy person by my friends, and was, withal, athletic. I fenced an hour daily, took calisthenic exercises every morning, forcing myself to do them, and I rowed when I obtained leisure to do so. In spite of this exercise and an inherent love of fresh air, which kept all the windows of my house open throughout the year, I suffered as above. Worse still, I was losing interest in life and in my work.

"In one or two conversations you laid down your simple principles of economic nutrition. You told me that my food ought to be masticated thoroughly, until taste was eliminated, and that (my) liquid nourishment, if taken, ought to be similarly treated. You also told me that, taking food in this way, I might, without fear of consequences, give free rein to my appetite. To shorten my story, I'll say that in three months after the practice of these principles my symptoms had disappeared. Not only

had my interest in my life and work returned, but my whole point of view had changed, and I found a pleasure in both living and working that was a constant surprise to me. For this, my dear Mr. Fletcher, I can never repay you. My only desire has been and is, to try and do for others in my practice what you did for me.

"Now I have since that time had occasional colds, headaches, and gouty pains; but, whereas formerly I could not explain their causes, I can now invariably trace them to carelessness in the buccal digestion of my food, and can soon shake them off. So much for my testimonial. Now for other matters.

"I do not know what may be the extent of the claims you are advancing in regard to the benefits accruing from the practice of your principles. If you, as you in justice may, claim even the widest benefits as surely following the practice of these principles, many will relegate these claims to the limbo where all such

'panaceas' are soon forgotten. They will err greatly if they do so. The seemingly simple procedure of insalivating one's food most carefully is not calculated to impress people with the fact that great permanent benefit follows. The subtlety of the changes that occur is due to the greatly increased action of a vital process, *i. e.*, of the admixture with the food-stuffs of saliva, in such quantities as to alter the chemical reaction of the initial stage of digestion. This initial change causes a consequent change of all the processes following it, and a change also in the final products of the entire process of digestion; the greatest change being, perhaps, the elimination of last-resort digestion by the intestinal flora (digestion by decomposition caused by bacteria), and consequent elimination from the body, of the toxins they produce. The life of an organism has been defined as 'the sum of all those inter-actions which take place between the various cells constituting the

organism and their several environments.' (Harry Campbell.) The final products of digestion are absorbed into the blood stream, and go to form part of the 'several environments' of the cells. The individual cell, the various groups of specialised cells, such as the brain, nerves, muscles, bones, etc., in short, the whole organism is beneficially influenced and made more resistent to disease by the purity of a blood stream that no longer contains the toxins of bacterially digested food.

"The further investigation of your discovery by those competent will, I am confident, result in such a simplification of the rules for a healthy life that the medical profession, at present forced by a lack of knowledge of the vital processes of nutrition to base their treatment on the veriest empiricism, will then be able to teach all and sundry how to live. At present, all we can do is to treat and perchance cure for a time certain symptoms, allowing the patient

to return afterwards to a mode of life that is really responsible for his malady. 'Disease is an abnormal mode of life.' (Harry Campbell.) The three factors in its causation are:

"(*a*) Cell structure.

"(*b*) Internal cell environment.

"(*c*) External body environment.

"Heredity determines, to a very large extent, our cell structure, and consequently our body structure.

"Sanitary science regulates our external body environment as much as the artificial and noxious habits of so-called civilisation will allow. The mental and physical external body environments have also their effect on the organism.

"Your discovery of simple rules for an Economic Nutrition will control the internal cell environment. In doing this, the predisposition to disease is materially affected. The internal cell environment being free from toxic material, and the cell itself better nourished, the cell's resistance to disease is

increased, the possible source of disease being limited to the external body environment.

"In concluding this endorsement I can promise, to each and all who may intelligently practise the principles of Thorough Buccal-Digestion, a complete knowledge of their body's food requirements, or, as a patient of mine tersely put it, they will learn the way to 'run their own machines.'

"Yours ever,

"ERNEST VAN SOMEREN."

Dr. Van Someren and the author, assisted by Dr. Professor Leonardi, of Venice, as Consulting Physiological-Chemist, and several colleagues, pursued some experiments during the winter of 1900–1901; and Dr. Van Someren read a paper on our work, entitled, "Was Luigi Cornaro Right?", before the meeting of the British Medical Association the following August.

The paper is too long to reprint here but it will be found in full in another

volume, entitled, "The A.B.–Z. of Our Own Nutrition."

The following "Note" by Dr. Professor, Sir Michael Foster, K.C.B., M.P., F.R.S. etc., is a further link in the chain of development of appreciation of the need of serious attention to the science of human nutrition excited by this initiative. (Dr. Foster is the Permanent Honorary President of the International Congress of Physiologists.)

EXPERIMENTS UPON HUMAN NUTRITION

NOTE BY SIR MICHAEL FOSTER, K.C.B., M.P., F.R.S.

"In 1901 Dr. Ernest Van Someren submitted to the British Medical Association, and afterwards to the Congress of Physiologists at Turin, an account of some experiments initiated by Mr. Horace Fletcher. These experiments went to show that the processes of bodily nutrition are very

profoundly affected by the preliminary treatment of the food-stuffs in the mouth and indicated that great advantages follow from the adoption of certain methods in eating. The essentials of these special methods, stated briefly and without regard to certain important theoretical considerations discussed by Dr. Van Someren, consist of a specially prolonged mastication which is necessarily associated with an insalivation of the food-stuffs much more thorough than is obtained with ordinary habits.

"The results brought to light by the preliminary experimental trials went to show that such treatment of the food has a most important effect upon the economy of the body, involving in the first place a very notable reduction in the amount of food — and especially of proteid food — necessary to maintain complete efficiency.

"In the second place this treatment produced, in the experience of its originators, an increase in the subjective and

objective well-being of those who practise it, and, as they believe, in their power of resistance to the inroads of disease. These secondary effects may indeed be almost assumed as a corollary of the first mentioned; because there can be little doubt that the ingestion of food — and perhaps especially of proteid food — in excess of what is, under the best conditions, sufficient for maintenance and activity, can only be deleterious to the organism, clogging it with waste products which may at times be of a directly toxic nature.

" In the autumn of 1901 Mr. Fletcher and Dr. Van Someren came to Cambridge with the intention of having the matter more closely inquired into, with the assistance of physiological experts. The matter evoked considerable interest in Cambridge, and observations were made not only upon those more immediately interested, but upon other individuals, some of whom were themselves medical men and trained observers.

"Certain facts were established by these observations, which, however, are to be looked upon as still of a preliminary nature. The adoption of the habit of thorough insalivation of the food was found in a consensus of opinion to have an immediate and very striking effect upon appetite, making this more discriminating, and leading to the choice of a simple dietary and in particular reducing the craving for flesh food. The appetite, too, is beyond all question fully satisfied with a dietary considerably less in amount than with ordinary habits is demanded.

"Numerical data were obtained in several cases, but it is not proposed to deal with these in detail here, as they need the supplementary study which will be shortly referred to.

"In two individuals who pushed the method to its limits it was found that complete bodily efficiency was maintained for some weeks upon a dietary which had a total energy value of less than one-half of that usually taken, and comprised little

more than one-third of the proteid consumed by the average man.

"It may be doubted if continued efficiency could be maintained with such low values as these, and very prolonged observations would be necessary to establish the facts. But all subjects of the experiments who applied the principles intelligently agreed in finding a very marked reduction in their needs, and experienced an increase in their sense of well-being and an increase in their working powers.

"One fact fully confirmed by the Cambridge observations consists in the effect of the special habits described upon the waste products of the bowel. These are greatly reduced in amount, as might be expected; but they are also markedly changed in character, becoming odourless and inoffensive, and assuming a condition which suggests that the intestine is in a healthier and more aseptic condition than is the case under ordinary circumstances.

"Although the experiments hitherto made are, as already stated, only preliminary in nature and limited in scope, they establish beyond all question that a full and careful study of the matter is urgently called for.

"For this fuller study the Cambridge laboratories do not possess at present either the necessary equipment or the funds to provide it. For the detailed study of the physical efficiency of a man under varying conditions, elaborate and expensive apparatus is required; and the advantages claimed for the special treatment of the food just discussed can only be fully tested by prolonged and laborious experiments calling for a considerable staff of workers.

"It is of great importance that the mind of the lay public should be disabused of the idea that medical science is possessed of final information concerning questions of nutrition. This is very far indeed from being the case. Human nutrition involves highly com-

plex factors, and the scientific basis for our knowledge of the subject is but small; where questions of diet are concerned, medical teaching, no less than popular practice, is to a great extent based upon empiricism.

"But the scientific and social importance of the question is clearly immense, and it is greatly to be desired that its study should be encouraged.

"M. Foster.

"April 26th, 1902."

The interest excited in Professor Foster was coincident with that espoused by Dr. Professor Henry Pickering Bowditch, Professor of Physiology of Harvard Medical School, and Dean of American Physiologists. Under the ægis of such encouragement the later developments are not at all surprising. In order to extend and verify the findings of Dr. F. Gowland Hopkins, of Cambridge University, England, as stated in

the preceeding note by Professor Foster, Professor Russell H. Chittenden, President of the American Physiological Society, Director of the Sheffield Scientific School of Yale University, and one of the leading chemico-physiological authorities of the world, as measured by accepted research work, volunteered to submit the author to further test. The report of this test is too long for reproduction here. It was first published in the *Popular Science Monthly* of June 1903, but will be found in full in the "A. B.–Z." just referred to. The special reference to the author's case and the quoted report of Dr. William G. Anderson, Director of the Yale Gymnasium which tells the story of efficiency, was as follows:

Extract from an article by Professor Russell H. Chittenden in *Popular Science Monthly*, June, 1903.

"The writer has had in his laboratory for several months past a gentleman (Horace Fletcher) who has for some five

years, in pursuit of a study of the subject of human nutrition, practised a certain degree of abstinence in the taking of food and attained important economy with, as he believes, great gain in bodily and mental vigour and with marked improvement in his general health. Under his new method of living he finds himself possessed of a peculiar fitness for work of all kinds and with freedom from the ordinary fatigue incidental to extra physical exertion. In using the word abstinence possibly a wrong impression is given, for the habits of life now followed have resulted in the disappearance of the ordinary craving for food. In other words, the gentleman in question fully satisfies his appetite, but no longer desires the amount of food consumed by most individuals.

"For a period of thirteen days, in January, he was under observation in the writer's laboratory, his excretions being analysed daily with a view to ascer-

taining the exact amount of proteid consumed. The results showed that the average daily amount of proteid metabolised was 41.25 grams, the body-weight (165 pounds) remaining practically constant. Especially noteworthy also was the very complete utilisation of the proteid food during this period of observation. It will be observed here that the daily amount of proteid food taken was less than one half that of the minimum Voit standard, and it should also be mentioned that this apparent deficiency in proteid food was not made good by any large consumption of fats or carbohydrates. Further, there was no restriction in diet. On the contrary, there was perfect freedom of choice, and the instructions given were to follow his usual dietetic habits. Analysis of the excretions showed an output of nitrogen equal to the breaking down of 41.25 grams of proteid per day, as an average, the extremes being 33.06 grams and 47.05 grams of proteid.

" In February, a more thorough series of observations was made, involving a careful analysis of the daily diet, together with analysis of the excreta, so that not alone the proteid consumption might be ascertained, but likewise the total intake of fats and carbohydrates. The diet consumed was quite simple, and consisted merely of a prepared cereal food, milk and maple sugar. This diet was taken twice a day for seven days, and was selected by the subject as giving sufficient variety for his needs and quite in accord with his taste. No attempt was made to conform to any given standard of quantity, but the subject took each day such amounts of the above foods as his appetite craved. Each portion taken, however, was carefully weighed in the laboratory, the chemical composition of the food determined, and the fuel value calculated by the usual methods.

" The following table gives the daily intake of proteids, fats and carbohydrates

for six days, together with the calculated fuel value, and also the nitrogen intake, together with the nitrogen output through the excreta. Many other data were obtained showing diminished excretion of uric acid, ethereal sulphates, phosphoric acid, etc., but they need not be discussed here.

	Intake.					Output of Nitrogen.		
	Proteids.	Fats.	Carbohy.	Calories.	Nitrogen.	Urine.	Fæces.	Total.
	Grams.	Grams.	Grams.		Grams.	Grams.	Grams.	Grams.
Feb. 2	31.3	25.3	125.4	900	5.02	5.27	0.18	5.45
3	46.8	40.4	266.2	1690	7.50	6.24	0.81*	7.05
4	48.0	38.1	283.0	1747	7.70	5.53	0.81*	6.34
5	50.0	40.6	269.0	1711	8.00	6.44	0.81*	7.25
6	47.0	41.5	267.0	1737	7.49	6.83	0.81*	7.64
7	46.5	39.8	307.3	1852	7.44	7.50	0.17	7.67
Daily Av.	44.9	38.0	253.0	1606	7.19	6.30	0.60	6.90

"The main things to be noted in these results are, first, that the total daily consumption of proteid amounted on an average to only 45 grams, and that the fat and carbohydrate were taken in quantities only sufficient to bring the total fuel value of the daily

* Average of the four days.

food up to a little more than 1,600 large calories. If, however, we eliminate the first day, when for some reason the subject took an unusually small amount of food, these figures are increased somewhat, but they are ridiculously low compared with the ordinarily accepted dietary standards. When we recall that the Voit standard demands at least 118 grams of proteid and a total fuel value of 3,000 large calories daily, we appreciate at once the full significance of the above figures. But it may be asked, was this diet at all adequate for the needs of the body — sufficient for a man weighing 165 pounds? In reply, it may be said that the appetite was satisfied and that the subject had full freedom to take more food if he so desired. To give a physiological answer, it may be said that the body-weight remained practically constant throughout the seven days' period, and further, it will be observed by comparing the figures of the table that the nitrogen of

the intake and the total nitrogen of the output were not far apart. In other words, there was a close approach to what the physiologist calls nitrogenous equilibrium. In fact, it will be noted that on several days the nitrogen output was slightly less than the nitrogen taken in. We are, therefore, apparently justified in saying that the above diet, simple though it was in variety, and in quantity far below the usually accepted requirement, was quite adequate for the needs of the body. In this connection it may be asked, what were the needs of the body during this seven days' period? This is obviously a very important point. Can a man on such a diet, even though it suffices to keep up body-weight and apparently also physiological equilibrium, do work to any extent? Will there be under such condition a proper degree of fitness for physical work of any kind? In order to ascertain this point, the subject was invited to do physical work at the Yale Uni-

versity Gymnasium and placed under the guidance of the director of the gymnasium, Dr. William G. Anderson. The results of the observations there made are here given, taken verbatim from Dr. Anderson's report to the writer.

"'On the 4th, 5th, 6th and 7th of February, 1903, I gave to Mr. Horace Fletcher the same kind of exercises we give to the Varsity Crew. They are drastic and fatiguing and cannot be done by beginners without soreness and pain resulting. The exercises he was asked to take were of a character to tax the heart and lungs as well as to try the muscles of the limbs and trunk. I should not give these exercises to Freshmen on account of their severity.

"' Mr. Fletcher has taken these movements with an ease that is unlooked for. He gives evidence of no soreness or lameness and the large groups of muscles respond the second day without evidence

of being poisoned by carbon dioxide. There is no evidence of distress after or during the endurance test, *i. e.*, the long run. The heart is fast but regular. It comes back to its normal beat quicker than does the heart of other men of his weight and age.

"'The case is unusual and I am surprised that Mr. Fletcher can do the work of trained athletes and not give marked evidences of over exertion. As I am in almost constant training I have gone over the same exercises and in about the same way and have given the results for a standard of comparison. (The figures are not given here.)

"'My conclusion given in condensed form is this. Mr. Fletcher performs this work with greater ease and with fewer noticeable bad results than any man of his age and condition I have ever worked with.'

"To appreciate the full significance of this report, it must be remembered that

Mr. Fletcher had for several months past taken practically no exercise other than that involved in daily walks about town.

"In view of the strenuous work imposed during the above four days, it is quite evident that the body had need of a certain amount of nutritive material. Yet the work was done without apparently drawing upon any reserve the body may have possessed. The diet, small though it was, and with only half the accepted requirement in fuel value, still sufficed to furnish the requisite energy. The work was accomplished with perfect ease, without strain, without the usual resultant lameness, without taxing the heart or lungs, and without loss of body-weight. In other words, in Mr. Fletcher's case at least, the body machinery was kept in perfect fitness without the consumption of any such quantities of fuel as has generally been considered necessary.

"Just here it may be instructive to observe that the food consumed by Mr.

Fletcher during this seven days' period —and which has been shown to be entirely adequate for his bodily needs during strenuous activity — cost eleven cents daily, thus making the total cost for the seven days seventy-seven cents! If we contrast this figure with the amounts generally paid for average nourishment for a like period of time, there is certainly food for serious thought. Mr. Fletcher avers that he has followed his present plan of living for nearly five years; he usually takes two meals a day; has been led to a strong liking for sugar and carbohydrates in general and away from a meat diet; is always in perfect health, and is constantly in a condition of fitness for work. He practises thorough mastication, with more complete insalivation of the food (liquid as well as solid) than is usual, thereby insuring more complete and ready digestion and a more thorough utilisation of the nutritive portions of the food.

"In view of these results, are we not justified in asking ourselves whether we have yet attained a clear comprehension of the real requirements of the body in the matter of daily nutriment? Whether we fully comprehend the best and most economical method of maintaining the body in a state of physiological fitness? The case of Mr. Fletcher just described; the results noted in connection with certain Asiatic peoples; the fruitarians and *nut*arians in our own country recently studied by Professor Jaffa, of the University of California; all suggest the possibility of much greater physiological economy than we as a race are wont to practise. If these are merely exceptional cases, we need to know it, but if, on the other hand, it is possible for mankind in general to maintain proper nutritive conditions on dietary standards far below those now accepted as necessary, it is time for us to ascertain that fact. For, if our standards are now unneces-

sarily high, then surely we are not only practising an uneconomical method of sustaining life, but we are subjecting ourselves to conditions the reverse of physiological, and which must of necessity be inimical to our well being. The possibility of more scientific knowledge of the natural requirements of a healthy nutrition is made brighter by the fact that the economic results noted in connection with our metabolism examination of Mr. Fletcher is confirmatory of similar results obtained under the direction and scrutiny of Sir Michael Foster at the University of Cambridge, England, during the autumn and winter of last year; and by Dr. Ernest Van Someren, Mr. Fletcher's *collaborateur*, in Venice, on subjects of various ages and of both sexes, some account of which has already been presented to the British Medical Association and to the International Congress of Physiologists at its last meeting at Turin, Italy. At the same time emphasis must be laid upon the

fact that no definite and positive conclusions can be arrived at except as the result of careful experiments and observations on many individuals covering long periods of time. This, however, the writer hopes to do in the very near future, with the coöperation of a corps of interested observers.

" The problem is far-reaching. It involves not alone the individual, but society as a whole, for beyond the individual lies the broader field of the community, and what proves helpful for the one will eventually react for the betterment of society and for the improvement of mankind in general."

This test of work was accomplished on food of the nitrogen value of less than 7 grams daily, whereas the textbooks declare that from 16 to 25 grams of nitrogen are necessary to human existence. The heat value of the food consumed during the test, and which was like in amount to what had been

habitually taken by the author for about five years previously (less than 1600 large Calories), was only *half the amount* set down by the majority of the presently-accepted authorities as necessary to run the body of a man of the author's weight and activity. The heat-economy-showing was verified a week or two later in a 32-hour calorimeter measurement in the apparatus of Professors Atwater and Benedict at Middletown, Conn.

Evidence of even more significant value has accumulated outside the field of the author's own experiments and tests. After more than a year of careful trial among some thousands of patients and among some hundreds of earnest employees, Dr. James H. Kellogg, of the great Battle Creek Sanitarium, has adopted the suggestions contained in this book as the first requirement of the treatment at the Sanitarium. In like manner, Dr. Edward Hooker Dewey, the sturdy advocate of dietary-economy for the past thirty years, author of the

"No-Breakfast" regimen, and various books upon the subject of auto-nutrition and dietary-rest, bent his attention upon the effect of thorough buccal digestion prescribed after a period of rest from outside feeding, and here follows his appreciation as extracted from personal letters.

Before quoting from the high appreciation of Dr. Dewey and Dr. Kellogg it may be well to state that the author stands simply for a test-subject-factor in a commonweal natural inquiry and no praise of the subject attaches to the person of the author. Whatever the author is, in the enjoyment of health and strength, is the result of natural causes which have developed during his study of the natural requirements in our nutrition. Please forget the personal element and consider that what is the author's gain in efficiency as related, is the possible possession of the reader as well, and whatever work or test the author performs is done as much for the reader as for the author himself.

The several extracts from the letters of Drs. Kellogg and Dewey; the statement relative to an endurance-test made on the author's fiftieth birthday, on a bicycle in France, volunteered by Edward W. Redfield, last year's Medal-of-Honorist at the Pennsylvania Academy of Fine Arts, Philadelphia, as well as medalist of last Exposition Universale, Paris; are appreciated and accepted for the subject they endorse; and, as before stated, are entirely impersonal. Instead of using dumb animals for test subjects and getting their unwilling, and sometimes abnormally deranged, participation, the author takes pleasure in submitting to the tests himself, and is thus able to state "symptoms" and "feelings" more accurately, perhaps, than any dog could do. Were vivisection necessary the author would willingly submit to that inconvenience also; but thanks to the skill of a Pawlow, and the ingenuity of a Bowditch coupled with the patience and persistence of a

Cannon, as fully related in the "A.B.–Z.," we not only get the economic results but we are able to know and even see some of the "reasons for things" as well.

Interesting testimony and comment relative to the present study will be found at the end of the volume in communications from Commandante Cesare Agnelli, Clarence F. Low, Esquire, Baron Randolph Natili, and one of unusual suggestiveness, as evidence of the need of further study of nutrition, from Dr. Hubert Higgins of Cambridge, England.

MILITARY-SCIENTIFIC COÖPERATION

With the evidence and interest just outlined, it was not difficult for the author to enlist the coöperation of Surgeon-General O'Reilly of the United Army and the endorsement of General Leonard Wood for larger investigation of the subject. These officers, both of them surgeons and medical doctors, had supported the militant-martyr-scientist,

Dr. Major Walter Reed, in his great sanitary accomplishment; had fought yellow fever to a finish together in Cuba; had traced its spread to a specific cause; and were thereby encouraged to tackle even so common and powerful enemies as Indigestion and Mal-Assimilation.

The investigation now in progress at Yale University, under the direction of Professor Chittenden and under the fostering auspices of the Trustees of the *Bache Fund*, which is administered by the National Academy of Sciences, and other contributed support, is a Militant-Scientific campaign which will not cease until we know as much about human nutrition, at least, as we know about the nutrition of our domestic animals.

In this little book, however, is an account of the first distress and war cry, (to appropriate an expression of the Salvation Army), and while the workers in Science may take a considerable time to make observations and investigate the "reasons for things," the underlying

claims herein stated will, it is believed, ultimately be established as fundamental facts of both Hygiene and Physiology.

The psychic factor in digestion is even more important than originally claimed by the author, and fully accounts for the strength attained by the Christian Science movement.

In the "A.B.–Z. of Our Own Nutrition" are reprinted, for recent scientific reports, in addition to the papers of Dr. Van Someren and Professor Chittenden, before mentioned, articles and lectures by Dr. Professor Pawlow, the great Russian physiologist and one of the Board of Assessors in the International Nutrition Investigation, described in the "A.B.–Z.," (reprinted from the fine English Translation by Dr. W. H. Thompson, of Trinity College, Dublin; English publishers, Griffin & Co.; American publishers, Lippincott & Co.), on the mental influence over the salivary, gastric, and intestinal secretions. Also, nearly an hundred pages of most virile,

readable, and important "Observations on Mastication," by Dr. Harry Campbell, M.D., F.R.C.P., of the North-west London Hospital; reprinted by courteous permission of the author and of the editor of the *Lancet*. Also, a description of the digestive process in animals as seen by aid of the Röntgen, or X-Ray; a most readable account of the infinite patience and application of Dr. W. B. Cannon, of the Harvard Medical School, devoted to learning the "reasons for things" done in the closed and secret laboratory of the stomach and intestines.

The above is a necessary advertisement of another volume in the A.B.C. Life Series; because the details of this particular attempt to reduce the philosophy of every-day life to profitable simples is linked-up in several volumes developed in the course of study of the subject for location of the germinal causes.

"Menticulture" was the first of the series and relates to the individual.

"Happiness" came next and located the chief enemy of happiness in *Fear-thought*, the unprofitable element of fore-thought. "That Last Waif" treated the question as related to the Social Whole, children in particular, and recommended *Social Quarantine;* by extension of infant education to the extreme of allowing no child to escape educational care. This present treatise deals with the first requirement of such infantile care and education, right feeding.

DR. KELLOGG'S APPRECIATION

The great Battle Creek Sanitarium, under the inspiration and direction of Dr. J. H. Kellogg, has grown to enormous proportions in thirty-seven years. It began with one patient in a two-storey frame house in a country village, and has been largely influential in creating the present proud distinction of Battle Creek, Michigan, with its millions upon millions of invested industrial capital.

The "cure" is based upon the establishment in the patient of right nutrition, right functioning of the bodily organs and secretions, and thereby assisting Nature to perform the cure in a natural manner. Pure foods and other conditions of right nutrition have been the particular study of the institution staff, and large and finely furnished chemical and bacteriological laboratories have been installed for the study of nutrition in a scientific manner.

The Battle Creek Sanitarium is a purely humanitarian and philanthropic institution. By perpetual charter, all of the profits of the concern in all of its ramifications are dedicated to the extension of the American Medical Missionary Cause, and there have been already established more than sixty branches of the parent institution in different parts of the world, principally in or near the chief cities of America, and all are occupied with saving and regenerating the physical body of the

sick as a foundation for possible moral awakening and spiritual cultivation.

The work done by these humanitarian institutions is most practical, and the best evidence of the practicality is their growth. Patients are charged what they can conveniently pay, but none who need are refused attention. Branches are made self-supporting as soon as possible, but are first nurtured by the parent sanitarium. There are some hundreds of physicians, nurses, and other attachés of the different institutions, and these are enthusiasts in the humanitarian work, taking as wages only what they need for most economical support, "a mere pittance," and deriving their chief compensation from satisfaction gained in the service. All in all, it is an expression of inspirational altruism worthy of the example of the Good Samaritan and a practical demonstration of the Sermon on the Mount.

The special attention of the writer was called to the work of the Battle

Creek Sanitarium organisation by an American banker, Edwin C. Nichols, Esquire, in London, at the time of the last Coronation. The banker was conversant with the growth and methods of the Sanitarium, and had seen the result of its missionary and sanitary work. He exacted a promise from the writer to visit Battle Creek on his first opportunity, and Mr. Nichols has our everlasting gratitude for leading us to a more intimate acquaintance with so splendid an illustration of humanitarian possibilities when properly directed. It is not alone the great Sanitarium and its hospitals, and clinics, and shelters, and refuges, and baths, and reading-rooms, that are doing the greatest possible good work, in demonstrating their effective Christianity; but it is the private waif-family of Dr. and Mrs. Kellogg which shows what neglected children are capable of when given a chance, and which appeals to the author especially as giving support to his ideal of a pos-

sible effective *Social Quarantine* as presented in his book, "That Last Waif." Twenty-four neglected and sick children of unfortunate parents have been rescued from an almost hopeless condition, and have been adopted into the best of surroundings and culture, all promising to become splendid wealth-productive citizens and ornaments to society.

For more than a year Dr. Kellogg and his staff of earnest workers have been testing the suggestions offered in "Glutton or Epicure," and in the treatise of Dr. Van Someren, and appreciation of these suggestions and the work that has since been done to stimulate interest in the question in high scientific circles will be found in some extracts from Dr. Kellogg's letters which the author has received permission to print herewith.

"BATTLE CREEK, MICH., Nov. 26, 1902.

"DEAR MR. FLETCHER:

"I have your kind note of November 20th. Thank you very much for your

appreciative words. Your visit here was a great inspiration to all of us. It is not often we find a man who enters into the things which we love so heartily as you have done. The thing that interested us especially was the fact that you are the founder of a new and wonderful movement, which is bound to do far more for the advancement of the principles for which we are working than all that we have done or anything we can do. I shall await with great interest the development of your work and shall expect to receive great light from your efforts. We are all in training to find our reflexes, and are expecting to make a great deal out of this."

"BATTLE CREEK, MICH., Dec. 21, 1902.

"MY DEAR FRIEND:

"I have received the beautiful book which you sent me, 'That Last Waif, or Social Quarantine.' It is a charming volume. I devoured it eagerly, and I find myself in the position of an eager

disciple sitting at the feet of a master. Your ideas of social regeneration strike deeper than those of any other modern author, and I shall be glad to coöperate with you in any way possible in promulgating these principles. You have made your book talk in a most impressive way. From cover to cover it is simply admirable and must do a world of good. I shall write a little notice of it for my journal, *Good Health.*

"Again thanking you for this interesting volume, I remain,

"Most sincerely and respectfully yours,

"J. H. KELLOGG."

"BATTLE CREEK, MICH., Jan. 22, 1903.

"DEAR FRIEND:

"I have shamefully neglected you. I want to assure you how much I appreciate your encouraging notes. I read them to my colleagues, and they were so much affected that tears came into their eyes. I assure you we feel

that you are indeed a brother to us in our work, and that God has providentially sent you to be a friend to us and to the principles which we represent.

"I had a letter from Dr. Haig a few days ago in which he mentioned you and your work, and said he was much interested in it. Dr. Haig, you know, has done a great deal in calling attention to uric acid in meats and other foods. His work has not all been accepted by great laboratory men, but Dr. Hall, of Owen's Medical College in Manchester, has recently reinforced his results. I have at different times repeated his experiments with interesting results.

"I assure you we shall be glad to receive any suggestions from any scientific authority who may visit us, and if there is any part of our work which can be improved, we shall be glad to put it there as soon as our attention is called to it.

"Again thanking you for your kindly interest in our work, I remain,

"Most sincerely yours,

"J. H. KELLOGG."

"BATTLE CREEK, MICH., Feb. 22, 1903.

"MY DEAR FRIEND:

"I have yours of January 29th. I am much interested in what you write about your demonstration at New Haven. I want to give the widest publicity possible to your work. I find great good in it. I am talking to my patients continually about it. I know from my experience that you are right. For many years I have required my patients to give special attention to chewing, and have made it a written prescription for each patient to chew a saucerful of dry granose flakes at the beginning of each meal. I have seen great good from this method.

"With kindest regards, I remain, as ever,

"Most sincerely yours,

"J. H. KELLOGG."

"BATTLE CREEK, MICH., March 16, 1903.

"DEAR FRIEND:

"I am exceedingly interested in the facts which you communicate, especially Dr. Anderson's report. It is quite remarkable. I am verifying the same ideas in my own personal experience. I am confident you have discovered a great and important principle and I shall watch with interest future developments. I am going to get our students interested in it. If you feel disposed to do so, I shall be glad to have you make out a little line of experiments which will tally with the experiments which you have been conducting, so the results may be compared.

"I have in hand a translation of Cornaro's work which I have been thinking of publishing. It occurred to me that perhaps you would be able to write a little chapter for this work, or an introduction. I am going to get it out in nice shape, and I trust it may be the means of doing good in inclining those

who read it toward a simpler life. I am greatly interested in the ideas which you present in your various books.

"I hope you will have a safe journey to Italy and back.

"I remain, as ever,

"Very sincerely and respectfully yours,

"J. H. KELLOGG."

"BATTLE CREEK, MICH., March 22, 1903.

"MY DEAR MR. FLETCHER:

"I have yours of March 19th. I thank you very much for promising to write an introduction for the edition of Luigi Cornaro's life. You are just the man to do it. I propose to get the book out in neat, tasty shape. Shall be glad to have suggestions from you on this point. The manager of a large denominational publishing house in Chicago is interested and wants to publish it with us. He has promised to help about the artistic features.

"As regards our medical college, I

ought to have told you that we are incorporated in the State of Illinois. Our medical school is really legally located in Chicago. We always have one or more classes down there for dissection, clinical work, and doing dispensary and missionary work in the city. Our school is officially recognised. Our diplomas are recognised in this country and in most foreign countries; our diplomas are recognised, in fact, in all countries which recognise American diplomas. The work done in our school is recognised by the best schools. Jefferson accepts students from our third year into their fourth, the graduating year, without examination. Kings College in Kingston, Canada, does the same; also Trinity College in Toronto, and other leading schools in this country. Our College is a member of the American Medical Association along with Bellevue, University of Pennsylvania, University of Michigan, Rush Medical College, and other leading schools. We have placed

our standard high so that no one could object to the reform features of our work on account of incompetency. Our students are admitted to practice in New York, having passed the examinations of the State Board. Our best reason for believing that our diplomas are recognised everywhere is because of students from the College having passed the examinations in nearly every State. One of our students recently graduated from the University of Dublin after having spent a year there, as they require five years instead of four years as with us.

"Your experiments are surpassingly interesting. Your performance with Dr. Anderson was phenomenal. I confess you are a physiological puzzle. If chewing accomplishes these wonderful things for you, it is certainly worth the while. I am training myself from day to day to masticate my food more and more thoroughly and I confess there is greater good in it than I ever imagined.

"I am sending you a little box of foods that I think you will like, especially the protose roast, the gluten biscuit, and the chocolates.

"I would like to get hold of a list of your books; I want to put them into the hands of our students to read. Kindly give me a list of the names and the publishers and I will esteem it a favour.

"I might have said further in reference to our College that it is listed by the New York Board of Regents as well as by the Illinois State Board of Health. We are going to make considerable improvement in our school the next year. We are trying to put up a new building. We need $100,000 very much, as our work has no endowment and it requires very great sacrifice and most strenuous effort to keep it going. Our teachers work for a mere pittance and our students are compelled to save and economise in every way to get through. Nearly all of them have to pay their way in work of some sort.

"By the way, I am taking liberty to send you with this, copies of some little booklets which I have just gotten out in reference to our work.

"I am, as ever,

"Your friend,

"J. H. KELLOGG."

"BATTLE CREEK, MICH., June 24, 1903.

"MY DEAR FRIEND:

"I have your kind note of June 21st. I am happy to be remembered by you tho I have neglected writing you. I was afraid my letter would not find you on your journeys.

"We are chewing hard out here at Battle Creek, chewing more every day. We are continually thinking and talking of you and the wonderful reform you set going. We have gotten up a little 'chewing song' which we sing to the patients. It is only doggerel but it helps to keep the idea before our people. We dedicated it to you and I am going to send you a copy of it as

soon as the printers get it ready. If you feel too much disgraced I will take your name off.

"That little book on 'Cornaro' is not out yet. We have been waiting for the introduction from you. We can wait as much longer as is necessary, as you are the man to furnish this introduction.

"I hope you will come West some time this summer so you can drop in and see us in our new building. We are not quite in perfect running order yet, but we shall soon be fixed in good shape and will be delighted to have you with us. You have helped us greatly in calling our attention to the great importance of chewing. We had known it for a long time but had not practised it. You demonstrated the thing in such a graphic way that the whole world is constrained to listen.

"Thanking you for your kind note,

"I remain, very sincerely yours,

"J. H. KELLOGG."

"BATTLE CREEK, MICH., July 23, 1903.

"MY DEAR MR. FLETCHER:

"I have your kind favour of July 14. You are doing me altogether too much honour. I am only a plodding, humble doctor, and have never had any opportunity to do any great thing, because of the limits of my abilities, and because I have not the opportunity to devote my energies to any one special thing; but have so many things to do that I can do nothing very well.

"I remember Dr. Krauss very well. He has for some years been assistant to Prof. Winternitz, the Professor of Nerve Diseases in the Medical Department of the Royal and Imperial University of Austria. He seemed a very able physician and a delightful gentleman. I was very glad to meet him.

"I have already sent you a copy of a little booklet entitled 'The Building of a Temple of Health.'

"We will be most happy to have a visit from you. I would like to know

about what time you are coming, and I will endeavour to be here. I have a call to give an address at Chautauqua, N. Y., early in August, and if I do not know when you will be here, I might possibly be away, which I should consider a great misfortune.

"We have nothing here, I am sure, which will be new to scientific men, and I apprehend that they will have a very different opinion of our work than you have.

"I have a little book which I think I have not sent you, entitled 'The Living Temple.' I will send a copy to you; also a copy of the 'Chewing Song,' which is now out. It is nothing but a cheap thing, intended only for my own little folks; but it got out, and several people wanted it, so I have allowed it to be put in print. The purpose was, of course, simply to impress the chewing idea. Of course you are well, as you are apt to be well by chewing well.

"By the way, I met a disciple of yours a day or two ago. He was Senator Burrows, from Kalamazoo. He called with his wife and some other ladies, and Mr. Rose, the chief clerk of the U. S. Senate, to make us a little visit. I had a very delightful chat with them. On remarking to the Senator that he did not look any older than when I saw him last, but seemed to be very well, he told me he was in perfect health, and he expected to live for ever. He had recently gotten hold of something that was doing him so much good that he believed he should never be sick. I begged to know his secret, and found it was chewing. I asked him how he discovered it, and he told me he had learned it from your delightful book. You are certainly promoting the most important hygienic reform which has been brought forward in modern times. When you visit us again, you will see in our dining-room of our new building more Horace Fletcher dis-

ciples, and more hard chewers than you ever saw together in one place in your life before. Our doctors and helpers are taking hold of it with great enthusiasm, and I trust we shall be able to render you some good service in promoting this good idea, for which you certainly deserve the gratitude of the whole world.

"Hoping to have the pleasure of a visit from you soon, I remain, as ever,

"Yours most sincerely and respectfully,

"J. H. KELLOGG."

"BATTLE CREEK, MICH., Aug. 13, 1903.

"DEAR FRIEND:

"Your kind notes of August 7th and 11th received. I have asked the Publishing Department to open an account with you and send you everything you order promptly at publisher's discount.

"'The Living Temple' is published for the benefit of the Sanitarium. Everything received from it goes toward pay-

ing for the new building. The cost of printing, paper, and binding is paid for by contributions, so all the money received goes toward the building fund for the Sanitarium. I hope by this and other means to get the building paid for before I die.

"I think your chewing reform is of more importance to the world than you realise. You must have a great fund of good cheer with you; doubtless because you chew! I told our patients here that I had heard from you that King Edward was chewing. It interested and amused them very greatly. The idea of 'munching parties' is a good one.

"As ever,

"Your friend,

"J. H. KELLOGG."

"BATTLE CREEK, MICH., August 21, 1903.

"DEAR MR. FLETCHER:

"I have yours of August 20th with the list of persons to whom you desire to have 'The Living Temple' sent. The

books are already sent together with a little note calling attention to them.

"Your continued courtesies are putting us under obligations which we can never repay.

"There are a lot of devils of different sorts to be cast out, and I am sure the dyspeptic devil is about the worst and the meanest of them all.

"A quartette sang the 'Chewing Song' just before my lecture in the parlour last evening. The great parlour was filled to its utmost capacity. The people cheered heartily, not at the singing nor the song, but the sentiment. I took occasion to tell them I thought Mr. Horace Fletcher, in inaugurating the chewing reform, had done more to help suffering humanity than any other man of the present generation, and that I felt very much mortified that we had neglected this important matter to such an extent here that you had to come to the Sanitarium and be a missionary of good health and urge this important

matter upon our attention. I feel that we are all greatly indebted to you, and seem to be getting continually more and more into your debt, and I do not know any way to discharge the obligation; but if any accident should ever happen to you so you get ill, it will certainly be a delight to us to have the opportunity to minister to you if you will permit us so to do.

"I am glad you have postponed your visit until October, as by that time we shall have many things in better working order, and our medical class will be here. I want to have our medical students meet you.

"I told Mr. Nichols the other day you were coming to visit us. He was greatly delighted to hear this. He feels as I do that the work which you have inaugurated is the most important movement which has been started in modern times.

"I remain, as ever,

"Fraternally yours,

"J. H. KELLOGG."

"BATTLE CREEK, MICH., Sept. 30, 1903.

"DEAR FRIEND:

"I have your kind note of the 23d inst. I am sure that one of my letters to you has been lost. I wrote promptly telling you that you were at liberty to use anything I have written you respecting your work.

"I am more and more enthusiastic respecting the value of thorough chewing. I have read with great interest Dr. Harry Campbell's articles, and am republishing in *Modern Medicine* a large part of what he has written.

"I have been thinking whether I might dare ask permission from you to publish your article 'What Sense' as a tract. Possibly it is already printed in that way. I would like to circulate it widely among my patients, and our nurses and doctors. I am doing my best to get them all to chewing, and have had great benefit myself from thorough mastication.

"Our Medical School has just begun again, and I have one nice class of six-

teen students who are going to devote themselves to the study of applied physiology, and all of them will experiment on the effects of thorough mastication in relation to the quantity of food; also in relation to the quantity of proteids. If you would like the details of the results of the experiments, I will give them to you later.

"By the way, if you have any written or printed outline of data which you think it desirable to collect, I will be glad to have it as a help to us in researches of this sort. We have prepared our laboratory to do almost anything that needs to be done, and we have a whole lot of enthusiastic young men and women who will enter into this thing with great zeal, and we will be glad to coöperate with you thoroughly as I feel that you have introduced a line of research and investigation which is of immense importance. I have read with great interest Prof. Chittenden's article in the *Popular Science Monthly*, and

I can but feel that you are a heaven-sent missionary to the world in this matter of diet reform.

"I remain,

"As ever your friend,

"J. H. KELLOGG."

"P. S. — I have for many years given a good deal of attention to the matter of mastication. It has been my regular prescription for all my patients for many years to eat at the beginning of each meal some Granose Flakes. The purpose of this was to secure increased activity of the salivary glands, and to encourage the habit of mastication. I have found immense benefit from this practice.

"I appreciate exceedingly all the good things you are sending me. What a delightful time you must have had in the Adirondacks! I have never had such a pleasure in my life, as I have had my nose continually on the grindstone at work since I was ten years of age, with no vacations at all. It is a remarkable

spectacle that these great men, these learned professors and scientists, and army medical men, should be coöperating so enthusiastically with a layman to learn the true philosophy of life; but it has always been so. The great discoveries have not been made by great scientists and great doctors, but by men whose minds were above the bias of prescribed education, and who were able to learn from the great book of nature, which is the book of God.

"When you come again I hope you will have time to stay with us a little while so we can have some good chats. I would like to sit down and go into the heart of things with you, when I think we should find our ideas running very close together. We shall expect to see you next month. I have to be away for a few days sometime during the month, so I hope you will let me know a little while before you come about what time to expect you.

"J. H. K."

EXTRACTS FROM DR. EDWARD HOOKER DEWEY

(At the first writing Dr. Dewey had had the method of treating food commented on in his letters under trial for three years; it having been communicated to him by the author among the first.)

"MEADVILLE, PENN., Nov. 17th, 1901.

"MY DEAR MR. FLETCHER:

"In the line of dietary form you have done better work than the entire medical profession has done from the dawn of History. This matter of eating the way you preach and practise, serves wonderfully to save the waste of energy, which is a direct robbery of brain power, in the stomach. It also saves an undue waste of food, the burden of over-weight, and above all things, the *waste of disease.* You should enlarge 'Glutton or Epicure' and push it. My allusion to this little book in my last book has brought me many letters of inquiry, and I always com-

mend it as a work of the highest practical importance.

"I have received the article of Dr. Van Someren, and I wish I had scores of them to send to my patients. I have read it with the greatest interest, and shall keep it most of the time in the mail pouches.

"In these latter times I am becoming more and more impressed with the results of over-food even with the well, until now I feel that the pussy belly is a matter so clearly attributable to gluttony as to be a cause of shame, at least, in the physiological sense. . . .

"I hope you will feel it a duty to enlarge and expand the usefulness of 'Glutton or Epicure.' The people are ripe in this country for just such a book. . . . I feel that you are doing the most important work in physiological investigation of any living man, and we in this country, especially, need all your new material as an addition to the book. . . ."

(Two years later; after five years' test.)

July 20th, 1903.

"What you have done to unfold physiologic mastication means more for human weal than all the mere medical prescribers have given the world from Adam to the present moment. I have tested the method you advise with the ailing, as you could not have had so large an opportunity to do. I have been having the care of fasters for the past twenty-six years, and now all of them, when they return to their healthy appetite and feeding, have to 'Fletcherise' every morsel. Just now a man has ended a thirty-two day fast under my care, and has begun taking food again, with an appetite and a relish that his memory does not recall having enjoyed before. He swallows nothing that is not reduced to thin liquid. Only occasional abstinence from food for a time and such attention to mastication, makes health possible with the majority of people, tempted by quanti-

ties of soft and rich foods. No other one has taught so wisely how available brain power can be saved from wastage in the stomach, as have you — the value is beyond all estimate.

"It has been given to me to become a teacher among those who have neither time nor means to cultivate health; mine to teach them how to get all the health possible, without the use of any of the health arts. In dispensing the new physiology of dietary rest I have had need of all the time possible, with none left for the experiments of science, hence I have done little or nothing to speak of in the experiment way suggested in your letters.

"I am very glad to hear from you again, and shall be pleased to have you indicate the number of the *Popular Science Monthly*, in which Professor Chittenden's article on your work at Yale appeared, so that I can send for it. Think of this, my dear Mr. Fletcher, what a conservation there is of energy,

brain-power-reserve and even soul-force, in saving it from waste in worrying about and literally pushing quantities of avoidable rubbish through thirty feet of the alimentary canal; and this is just what is accomplished by your method of making the jaw muscles and salivary glands do all their whole duty in the matter of daily food."

September 3d, 1903.

"I send you a whole cargo of thanks for the fine book you sent me (Dr. J. H. Kellogg's 'Living Temple') and the 'Chewing Song' (taught and used as a reminder at the Battle Creek Sanitarium). The latter is the most important kind of a song ever voiced during the age of man. I have been trying to get time to write you some physiology, but am very busy with my correspondence with distant patients. Will do so soon."

September 12th, 1903.

". . . What I would like best to express to you is my appreciation of

the exceeding good you have done me in teaching how to save energy available for brain-power by 'Fletcherising' all foods before swallowing. In the case of dropsy, I have previously written about, I am confident the sole means of success that is being accomplished now, is due to the 'Fletcherising' of all morsels. The patient spends never less than an hour and a half over his one meal a day. At the end of his former fast, with his weight of 250 lbs. cut down to 125 lbs., he was permitted to take six meals a day, and in a few weeks he was nearly as bad as ever, with his weight raised to 180 lbs. Under my care, and after only a seventeen-days' fast (dietary rest), he was reduced again to 122½ lbs. There has since been a month of feeding one meal a day by your method, with weight restored to 156 lbs. and no hint of returning dropsy — and you are guilty of this, for no other than the practice of thorough mastication has been capable of such curing work.

"Your experiences, as detailed in the *Popular Science Monthly* (June, 1903), were read with absorbing interest. There is no more important work for man to do than that which you are doing. I have not the patience for details, and since the 'No Breakfast Plan' has become somewhat known to the world, I have been too busy; but the more I study, and study you in particular, the more I see and realise what of crimes and of evil desires are due to overfood — to bolting food.

"Now for something new! In an article on 'The Mystery of Migrations' in the *Saturday Evening Post* of August 22d (1903), it is given out that all migrating birds let their last meal get thoroughly digested, that they may start on their long flight with empty stomachs; that no power may be diverted to the digesting machinery of their stomach. What is the significance of this in relation to the 'No Breakfast Plan?' It is the true physiology of Instinct!"

(In response to a request for permission to quote his appreciation.)

September 17th, 1903.

"DEAR MR. FLETCHER:

"You may freely state my views of the value of the work you have done for humanity better than I have done. Know this; I am not able to adequately express my own appreciation of it, as revealed in the rooms of the ailing throughout several years of experience, by any language at my command. Here is something formal, if you like to use it.

"Yours with admiration and gratitude,

"E. H. DEWEY."

"P. S. The matter of thorough mastication, as unfolded and insisted on by Horace Fletcher, is the greatest practical physiology that a dyspeptic, gluttonous world ever has received. The discovery of its importance of mouth-work, in saving the strain of over-work in the stomach and in the intestines,

will do more to prevent disease than all other precautions. This is all the more wonderful when it is considered that Mr. Fletcher is a layman.[1]

"Here is the physiology involved,

[1] Dr. Dewey's expression of surprise at the lay incompetence of the author is interesting in view of the fact that he himself is responsible for the untitled, unprofessional deficiency at which he wonders. When the author met Dr. Dewey, in Dayton, Ohio, where he was conducting some experiments, in 1898, he was then on the point of taking up a complete medical course with a post-graduate course of research-physiology in order to give character to his authority in advancing the cause of his amateurish discovery, as related in this book. There were the time, the energy, the means and the inclination of a student's craving inviting him to take the whole course to M.D. degree; but Dr. Dewey advised "no." "Don't you do it," said he, "you are doing good work as it is; you will be more or less influenced by existing standards which may be errors, and you may get switched off the natural track. Study your physiology *after* you have made your observations." Dr. Dewey has forgotten his advice of five years ago, but it was followed. Living almost constantly in an open-air and open-mind atmosphere of research in alimentary physiology ever since, thanks to Dr. Dewey's suggestion, the author has escaped the abnormal physiology which medicine deals with, and he is more and more thankful for the escape as time reveals that open-air and open-mindedness are good, both for the soul and for bodily comfort and health.

as I find the effect of it in the sick-room. Theoretically, digestion may take place far down in the digestive tract, but it is practically found that when this possibility is resorted to, by reason of neglect of the earlier buccal or gastric digestion, trouble soon happens, and we doctors are called in to try to effect cures by medicine or otherwise. For every one horse-power of work, as it were, that is slighted in the mouth, it requires perhaps ten horse-power of energy to repair the neglect further on, and all of this waste of energy is charged against the brain-power, pleasure-power reserve on storage.

"As I read the account of Mr. Fletcher's showing of heat-economy, reported by Professor Chittenden in his *Popular Science Monthly* article, and which was verified in the calorimeter measurement at Middletown, I see at once, from my own observations, that half the heat commonly used in the human engine is occupied in forcing the unnecessary

waste through thirty feet of intestinal folds and convolutions."

The author feels very grateful to Dr. Dewey, not alone for his encouragement, but for the service he has rendered humanity by his heroic stand for temperance in feeding. He is one of the sturdy Esculapian Luthers, whose cry of reform comes from the impulse of an inborn Christian Altruism.

When it becomes generally known, as it some day will be, that over-eating and wrong-eating are the prime causes of temptation to intemperance in drinking, the measure of Dr. Dewey's service to the Temperance Cause will be better appreciated.

AN AGREEABLE ENDURANCE TEST

After this volume was published in 1898, the field of experiment was changed from the United States to Europe. The physical exercise and mental recreation of the summer of 1899 consisted partly of bicycling. We landed in Holland, toured Holland, Belgium, and Northern France, and reached Paris in the course of about two months and with upwards of five hundred miles' wheeling. For another month we bicycled leisurely around Paris and added two or three hundred miles to our cyclometer record. During the month of July the author further rode some seven hundred miles in and about the Forest of Fontainebleau.

The idea of an endurance-test was suggested to the author by the ease with which he accomplished a century

of miles on the Fourth of July, 1899. Being in Paris, and wishing to celebrate a most beautiful summer day and our National Holiday at the same time, an early start was made and the beauty of the day, the charm of the golden harvest fields lying between Paris and the Forest of Fontainebleau, and the noble forest itself, led us on and on until the cyclometer showed a distance, for the forenoon run, of slightly more than eighty kilometers (fifty miles) in a straight-away line from hotel and home in Paris. Two years before, fifty miles on bicycle, even when accustomed to riding daily during the craze for bicycling, which was then at its zenith, if done in one day, would have completely "done the author up" and would have called for several days of rest for recuperation. In the present case, however, no fatigue had yet been experienced and the day was still young.

The forest studio-home of friend Redfield, the Philadelphia landscapist, was

found on the edge of the forest bordering the Seine at Brolles, and we went for a spin together and finally returned awheel to Paris. To make a "century run" in a day had always seemed to the author a feat for athletes and experts only, and when he found that he had made it without any inconvenience and was in no way painfully conscious of it next day, the ambition to see *what really could be done* was born. It would give practical measure of the improvement due to an economical nutrition. It was known what the newly ambitious contestant for a record *could not do* two years before, but it was now uncertain what he *might be able to do* under changed condition of health even with two years' additional handicap of age; besides, it happened to be the half-century year of the author's life and a good time to jot down a record of a new start in life.

Reference to "economical nutrition" in connection with a full measure of recreation needs some explanation. To

be economical means to most persons privation of pleasure. It is true that the economic standard attained by Luigi Cornaro had been maintained with ease by the author since the beginning of his experiments in the summer of 1898. This was not accomplished by trying to emulate Cornaro's example, but was reached by a method of taking food, and developed in the course of a special study of the economic natural requirements. The author ate *just what his appetite called for*, as nearly as circumstances of supply permitted, he ate *all that his appetite would allow;* enjoyed a gustatory pleasure that *had never been equalled* under old habits of taking food, and was a distinct epicurean gainer by the economy learned and practised. But—and in this "but" lies the secret—the solid food had been munched appreciatively until it was liquefied and a strong Swallowing Impulse compelled its deglutition. The sapid and nutritious liquids were tasted as the wine

tasters taste wine, as tea tasters taste tea, and as all experts test, or "Get the Good" out of, anything. Instead of being drunk down in a flood like water, which has no taste and no reason to stay in the region of taste, delicious country milk was sipped and tasted with the end of the tongue, where the best taste-buds are, until it disappeared by natural absorption. In this way the milk was fully enjoyed, largely assimilated, and, as the result of almost subsisting on bread and milk alone, at times, in response to the country appetite, the disproportionately excessive waste usually encountered when pursuing a milk-diet was not experienced; the digestion-ash (solid excreta) was extremely small and averaged only about one-tenth of the amount commonly wasted in the digestive process in ordinary habits of taking bread and milk hastily and carelessly.

It is significant that, while the quantity of food habitually taken was about

one-third of the text-book normal-average prescription, the solid waste was *only a tenth* of the usual amount, showing a much more economical digestion and a better assimilation. This possibility of a profitable and an agreeable economy was afterwards verified in the Venice experiments.

An æsthetic result was attained in connection with these experiments which cannot be too often advertised. All putrid bacterial decomposition was avoided in the process of digestion, and all sense of muscular fatigue was absent, even following strenuous and unusual exercise.

Instead of involving deprivation and asceticism, that mid-summer month in the Forest of Fontainebleau, occupied in making an *economy* and an *endurance*-test, was a carnival of tempting plenty in the way of good food enjoyed to the full satisfaction of a healthy appetite. The endurance-test recounted in the letter following is evidence of the effect of such sumptuousness when ap-

proached by different methods of gratification. The powerful young artist who volunteers the story lived in the ordinary way and the aged reformer and research-dietetician, whom the young athlete paced, treated his food as recommended in this book.

EDWARD W. REDFIELD'S EVIDENCE

(In response to an invitation to recount his remembrance of the test after a lapse of four years.)

"CENTRE BRIDGE, PENN.

"MY DEAR MR. FLETCHER:

"My remembrance of the trip is as follows: On August 10th, 1899, I was spending the summer at Brolles, on the border of the Forest of Fontainebleau in France, when you came to visit me and enjoy the forest at the same time that you were conducting some chewing exercises and planning an endurance-test on bicycle on the fiftieth anniversary of your birthday. You were quietly living then according to the regimen with which your name is now connected and

I was pursuing the ordinary habits of life which are common to artists abroad. The test was not only to determine the endurance of yourself, but to furnish a contrast with ordinary conditions of nutrition. We were eating at the same table, with the same food available to each, and were taking about the same amount of physical exercise. We turned in at night at the same time, as people are apt to do in the country, and it was my custom to rise at or before daylight. This habit of early rising came natural to me from my farmer education and habitual practice, and yet I never could surprise you early enough to catch you asleep. My first thought on getting out was to stop under your window and chant the refrain, 'Mr. Fletcher, are you up?' in imitation of the catch-line of a popular song of the year. Frequently the click of your type-writer warned me that you were already at work, but you were always awake and ready for 'anything doing.'

"I was, at the time, thirty years of age and thought myself in good condition and strong even for a farmer's boy; had previously done considerable long-distance road-riding, including League of American Wheelmen runs, etc., in competition with the 'cracker jacks'; and, to be frank with you, thought the agreement to pace you on that particular day a 'snap,' and I expected to lose you in the woods before long.

"The day was perfect, rather warm, as I remember it, and with little or no breeze. Our start was made at 3.55 A. M. (arose at 3.30). Course selected: To Fontainebleau and thence across country to Orleans, about one hundred kilometers distant from Brolles. I considered Orleans the limit and fully expected to have you return by railway from there.

"We were running at the rate of twenty to twenty-two kilometers the hour, and from time to time I would look back for Fletcher, but he was al-

ways at the same place at my rear wheel. A puncture delayed us for some fifteen minutes, but when the great cathedral bell of Orleans struck nine we were already there taking our first food of the day, coffee and crescent rolls.

"We again started, after a short rest, down the Loire, always holding the pace of twenty kilometers or better the hour in spite of the undulations. We stopped occasionally for water and milk, a single tumblerful of which satisfied both the thirst and the hunger of yourself.

"To me, the ride, at about this period, became a grind, but Fletcher seemed to get stronger and stronger and occasionally led the pace at a terrific clip. My condition, as we neared Blois, became more than bad with cramps in the legs. I had to dismount but could n't stand up, and for awhile, I thought they would have to carry me home. I appreciated the kind inquiries sympathetically made and oft-repeated by yourself as to my

condition, but had you known, at the time, how I was cussing your healthy appearance and impatience to proceed, you would n't have bothered me so much with your sympathy. After a partial recovery and the slow ride into Blois, six kilometers away, I left you, taking the train back to Paris, you having decided to go it alone for the rest of the day and thus complete the test.

"The arrival at Blois was about 1.30 P. M. (170 kilometers — a little above 100 miles) and took about nine hours, including stops, to accomplish. The next morning we received your dispatch from Saumur, nearly another hundred miles down the Loire, telling us that the run to that point had been completed by 10.10 P. M. that night, and Mr. Fletcher returned the next day as fresh and as strong as I had ever seen him at any time during the summer.

"Starting the day following with wife and daughter for a bicycle ride through France to Switzerland I accompanied

your party as far as Geneva, and the only thing I could n't discover was how a man who ate so little could travel so far and seem never to get tired.

(Signed) "Very sincerely,
"E. W. REDFIELD."

"Sept. 17th, 1903."

TEST COMPLETED

The experience of the author on that eventful fiftieth birthday, as registered in the successive sensations, is worthy of record.

In starting out in the cool of the morning as the day was dawning, and speeding through the beautiful Forest of Fontainebleau, the feeling of exhilaration was indescribable. An hour or two passed before there was any sense of unpleasantness attaching to the steady grind of duty which led us to pass reluctantly by inviting spots and scenes without stopping. In the beginning there was the keenest feeling of pleasure

in the mere movement, without any exertion, over and among an enchanting landscape. It was what one might call a birdlike sensation of freedom of movement which bicycling and skating, among the common means of locomotion, alone give.

Redfield did not let up on the pace and I was determined not to beg for respite. Between fifty and sixty kilometers of distance only had been made when I felt that the day was not propitious for an endurance-test, and I fully expected to be compelled to return from Orleans leisurely in the afternoon and evening by wheel with only a slight addition to the century-run of the preceeding Fourth of July accomplished. Before Orleans was reached, however, all sense of strain passed, and second-wind and second-strength had become installed for the day. When I left Redfield at Blois I felt stronger than any time before, and as eager to kick the pedals as when we started in the morn-

ing and as one always is prompted to do when one is filled with surplus energy. I had no objective point and was guided only by tempting roads and favouring breezes. The river road down the Loire was most promising at first, but a head wind sprang up and made a *détour* the other side of Blois more tempting by argument of a fair wind that blew down one of the roads leading away from the river. For a time I made full twenty-five kilometers an hour, but the wind died out and I returned to the river road and reached Tours in time for the enjoyment of a magnificent sunset effect and a most appetising and satisfying *table d'hôte* dinner. Before dining I jumped into a tub and had a good refreshing dip and a vigorous rub which made me feel like going out to take a walk or mount my wheel again. My appetite for dinner was not large, centred on a salad richly dressed with olive oil, and was quickly appeased; immediately after which I mounted my wheel again

and proceeded down the beautiful road towards Saumur. My ambition was here raised to complete 300 kilometers and the distance to Saumur just about filled that ambition. I rode leisurely for a time after dining and then gradually increased the speed to about eighteen kilometers an hour, which brought me to my destination a little past ten, with a feeling of sleepiness that invited to a hasty falling into bed, but with surprisingly little or no sense of muscular fatigue. My cyclometer registered a little more than 304 kilometers, or 190 miles; not much for experts, under the conditions, to be sure, but a revelation of possibilities to a man of fifty who had once, not many years before, been denied life insurance on account of health disability. This was worth more than millions of money to me; and no one knows how much it will signify to the human family when the knowledge of a truly economic nutrition is attained and established.

I was bright awake at daylight the next

morning and had the impulse to mount my wheel and see how "fit" I was in consequence of my exertion of the day before. This I did, and rode eighty kilometers (fifty miles) before breaking my fast at nine o'clock. I believe I could have ridden as far that day had the conditions been favourable. My weight, on return to my balances at Brolles, was reduced two kilograms (nearly five pounds), but a generous thirst for a day or two, and a slightly increased appetite put the loss back again inside a week even while riding my wheel daily on the way to Geneva.

Since reaching Italy, and abiding in Venice, there have been long periods when no systematic physical exercise has been indulged in. Once, after nearly a year of physical inactivity, I took with me an attendant and made an average of seventy-five miles a day in the mountain districts of southern Germany for observation of increase of food requirement during hard work. Neither muscular soreness, nor muscular

fatigue, except the periodical weariness of sleepiness, were experienced as the result of the sudden change from the most restful environment to strenuous activity; and herein lies a physiological question that is far-reaching in its significance. It would seem that Appetite, in its normal condition, assisted in its discrimination by careful mouth-treatment of food, guards the body from excess and keeps it always "in training." The later experience at Yale University under Dr. Anderson and Professor Chittenden showed the same immunity from muscular disability, and has brought the question to good hands for solution.

The author has voluminous data relative to his work, but it is not applicable to any other person. Each person is a law unto himself and no two sets of conditions are alike. Treat your food as advised herein and get surprising new experiences for yourselves, is the advice and moral of the story.

GENERAL OBSERVATIONS

HEALTH, HARMONY AND HAPPINESS

Health, Harmony and Happiness are the natural heritage of man.

The human body is the most perfect piece of mechanism possible to imagine.

The human body is intended to nourish Health, maintain Harmony, and conserve Happiness.

* * *

The body machine is self-building or self-growing, self-lubricating and self-repairing.

A simple knowledge, only, is necessary for proper (preventive) care of the body machine.

All that Nature requires of man is to supply fuel preferred and, therefore, prescribed by Normal Appetite and to

direct the energy generated along alluring lines of usefulness.

* * *

Nature requires no sacrifices and imposes no penalties for obeying her beneficent demands.

Natural Laws are easily comprehended if studied objectively.

Ill health, inharmony and unhappiness come only from disobeying Nature.

God (obeyed) is Only Good.

NATURE STUDY

Nature cannot be profitably studied alone through books.

Nature has a separate message for each intelligence.

Each body machine has peculiarities which the possessor alone can understand.

Object lessons, personally experienced or observed, are the best.

"Once seeing (or feeling) is worth an hundred times telling about," is a wise Japanese proverb; and it is true.

As the swinging pendulum taught Galileo, and the falling apple suggested to Sir Isaac Newton, the law of gravity, in like manner the modern electric power-plant teaches us, by analogies, suggestions useful in the study of ourselves — our own Mind Power-Plant.

OLD AND NEW

THE OLD IDEAS

The old religion condemned man, even though unenlightened, to perdition and saved him only through special dispensation.

The old education insisted on narrow formulas and tried to cram all mentality into prescribed moulds.

The old physiology presupposed disease and glorified pathology.

THE NEW STUDY

The new religion glorifies Love, stimulates Appreciation and preaches only Optimism.

The new pedagogy aims to discover the useful tendency with which each creature is equipped at birth and to cultivate this God-given inclination as designed by the Creator.

The new physiology studies Hygiene and assists Nature by securing Prevention to avoid the necessity of correction and cure.

SAFE HYPOTHESES

Assuming that Nature's intentions are only right, ill-health is unnatural.

If Nature's invitations, as expressed by Normal Appetite, are rightly interpreted, good health must result.

When there is bad health Nature has been disobeyed.

A REASONABLE CONCLUSION

If Physiology has failed to teach a way to maintain perfect health some of her hypotheses must be wrong.

If any of the hypotheses of Physi-

ology are discredited any one of them may be doubted.[1]

[1] Since this was written, the then accepted standards of human food requirements have not only been questioned but have been discredited and disproved. The great importance of mouth-work in the economics of digestion has been demonstrated and accepted.

OUR NATURAL GUARDIANS

THE SENSES

GUIDING SUPPOSITIONS

The stomach and other hidden parts of the body have automatic functions independent of the will that perform digestion; these functions are beyond the scope of control, and hence means of preventing ill-digestion must be studied by the aid of the exterior sensations.

Sight, Appetite, Touch and Taste are the senses useful in selection of food and in the prevention of indigestion.

Sight and Appetite relate to invitation and selection, while Touch and Taste are discriminators and indicators of conditions.

Appetite and Taste are the sense functions that are most important to health, and hence they are the most important to study and understand. They

are the guide in nutrition and the guard of the body machine — the Mind Power-Plant.

Smell also is an important aid in selection and discrimination and is an effective assistant of Appetite.

APPETITE AND TASTE ANALYSED

Appetite should be dignified and recognised as a distinct sense.

Normal Appetite is Nature's means of indicating her fuel and repair requirements for the Mind Power-Plant.

Study Normal Appetite and heed its invitation. It prescribes wisely. Its mark of distinction, to differentiate it from False Appetite, is "watering of the mouth" for *some particular thing*.

False Appetite is an indefinite craving for *something*, ANYTHING! to smother disagreeable sensations and frequently is expressed by the symptom of "faintness" or "All-gone-ness." [Vide the "A.B.–Z. of OUR OWN NUTRITION."]

Taste is the chemist of the body;

of the Mind Power-Plant. More correctly, perhaps, it is the report of a chemical process relating to nutrition.

Taste is an evidence of nutrition. While taste lasts a necessary process is going on.

Taste should, therefore, be carefully studied and understood.

Both Taste and Appetite differ in different individuals and in the same individual under different conditions of thought or activity.

Taste is also dependent on supply of the mouth juices usually called saliva, and these differ materially in individuals, necessitating self-study, self-understanding, and self-care to insure prevention of indigestion and disease.

The most important part of nutrition is the right preparation of food in the mouth for further digestion.

The most important discovery in physiology is the relation of compulsory or involuntary swallowing to the right preparation of food for digestion.

* * *

Taste is evidence of nutrition.

Whatever does not taste, such as glass or stone, is not nutritious.[1]

Taste is excited by the dissolving of food in the mouth, and while it lasts a necessary process of preparation for digestion is going on.

The juices of the mouth have the power to transform any food that excites taste into a substance suitable for the body.

Nothing that is tasteless, except water and pure proteid, only by distinct invitation of appetite, should be taken into the stomach.

If we swallow only the food which excites the appetite and is pleasing to the sense of taste, and swallow it only after the taste has been extracted from it, removing from the mouth the tasteless residue, complete and easy diges-

[1] Pure proteid or albumin is quite tasteless but is always accompanied by tasting substance, and separation of the proteid molecule from enveloping material is an important function of mouth-capacity in digestion.

tion will be assured and perfect health maintained.

* * *

NATURE'S FOOD FILTER

Nature has provided an Automatic Food Filter which, if rightly used, will prevent the introduction of any harmful substance into the stomach.

* * *

At the entrance to the throat there are certain muscular folds or convolutions, including the palate, which, when in repose, form an organ that is nothing less than a Perfect Food Filter. This filter has also automatic qualities which compel it to empty itself by the process we call "Involuntary Swallowing."

Involuntary swallowing is really compulsory swallowing; unless a voluntary effort to restrain it is set up against it. The real Swallowing Impulse is so strong that it is practically compelling.

The Food Filter, when rightly performing its protective function, is impervious to anything except pure water at

the right temperature for admission to the stomach and to nutriment which has been properly dissolved and chemically converted by salivation (mixture with saliva) into a substance suitable for further digestion.

IMPORTANCE OF MASTICATION

If we masticate — submit to vigorous jaw action — everything that we take into the mouth, liquid as well as solid, until the nutritive part of it disappears into the stomach through compulsory or involuntary swallowing, and remove from the mouth all fibrous, insoluble and tasteless remainder, we will take into the body, thereby, only that which is good for the body.

* * *

The first thought that will arise in the reader's mind on perusal of the above declaration will undoubtedly be, "What! masticate milk, soups, wines, spirits, and other liquids; nonsense! That is impossible!"

It is not, however, impossible, and, furthermore, it is *absolutely necessary to protection against abuse of the stomach and possible disease.*

Liquid for adults, for anyone after the eruption of teeth, is an artificial and unnatural sustenance; something not taken into consideration when the human body was planned. Liquid food (drunk without mixing with saliva) is a sort of nutritive self-abuse, and the only way to avoid the ill effect is to give it the same chance to encounter saliva that the constituent ingredients would have had in a more solid state. For the importance of this see Dr. Campbell's able treatise on mastication reprinted from the London *Lancet* in the "A.B.–Z. of Our Own Nutrition."

* * *

The only things necessary to life that we are compelled to take into the body that do not excite the sense of taste are pure air and pure water. These are necessary to life, but are not what is

called nutrition. They do not, alone, replace waste tissue. They do not challenge the sentinel, Taste, and hence do not require retention in the field of taste.

If water be pure and tasteless you cannot masticate it, as it will not submit to more than one action of the jaw before causing involuntary swallowing. If it have taste it is a sign that it contains mineral or vegetable substance that needs treatment of some sort to render it suitable for the body, and it will then resist some mastication, some mouth-treatment, as in tasting, before compelling swallowing, just as the sapid liquids do.

Anything that has taste, even soup, wine, spirits or whatsoever is tried, will resist numerous mastications before being absorbed by the Food Filter. Above all things, milk, wines, etc., should be sipped and tasted to the limit of compulsory swallowing.

* * *

In considering the reasonableness of masticating everything that has taste until it is absorbed by Nature's Food Filter, it must be remembered that the only liquid food provided for man that is not artificial is milk, and the natural means provided for taking milk into the stomach is by sucking, which is like mastication.[1] The milk of fruits, such as cocoanut milk, for instance, is found, in liquid form, only in the unripe fruit, and remains liquid only while it is ripening into pulp.

* * *

Insalivation does not seem to be complete without jaw action, although saliva (sometimes only mucous) flows freely into the mouth without it under conditions which we term "watering of the mouth" excited by keenness of appetite.

[1] Before the eruption of teeth in a child there is no secretion of saliva, only mucous; but mother's milk is strongly alkaline, and hence has no need of saliva to prepare it for digestion. All milk that has "stood" or has been mixed with water is acid, and requires saliva to give it the quality of mother's milk.

(See Pawlow's, Campbell's, Van Someren's, and other evidence in "A.B.–Z. of Our Own Nutrition.")

The normal perviousness or natural opening of the Food Filter for swallowing food is directly assisted and affected by movement of the jaws exercised in vigorous manner.

Mastication, or mouth-treatment, therefore, even of liquids that excite taste, seems to be a necessary part of thorough insalivation.

* * *

Nature has a good reason for everything she plans.

It is asserted by physiological chemists that saliva, taken from the mouth and kept at normal temperature, will dissolve breads and similar foods and convert the starch in them into maltose, glucose or sugar. The converted form is that which is suitable for further digestion. Saliva also converts some acids into alkali and readily neutralises all acids.

It is also asserted that saliva does

not dissolve some things (proteid substances) nor chemically affect them as visibly as it does starch and acid, but, even if this be true, it is no less essential that the juices provided in the mouth should have an opportunity, through mastication, or, movement about in the mouth, to do what they are able to do in assisting digestion.

Experiment shows that if all foods are submitted to the examination and action of these juices until involuntary swallowing takes place, the results in aiding subsequent digestion are important in promoting healthy nutrition.

Separation, neutralisation, alkalination, saccharidation, of the proteid and carbo-hydrate elements of common foods and perhaps a partial emulsification of fats are all possible in the mouth and are more easily and quickly done there than inside the body. Much care in Mouth-Treatment is an assurance of economy and safety in Alimentation.

OBJECTIONS CONSIDERED

One of the objections usually provoked by the suggestion that all tasteless residue remaining in the mouth after the taste or nutriment has been dissolved out of it should be removed is generally expressed in this wise, "How is it possible to remove refuse from the mouth while eating without appearing disgusting to others at table? You have to swallow things to get rid of them."

This is merely a bugbear prejudice. It has no good reason.

Do you not remove cherry pits, grape skins, the shell of lobster, bone, etc., when you encounter them? Then why not remove the fibrous matter found in tough lean meat, the woody fibre of vegetables or anything rejected by instinctive desire to discard it after taste has been exhausted, and which is a protec-

tion provided by beneficent Nature? In well selected and well cooked food there is little found that the juices of the mouth in connection with the teeth cannot take care of and prepare so as to be acceptable to Nature's Food Filter.

If fibre is found in the food it can be put upon the fork in the same manner that a cherry pit is usually handled and transferred to the plate without observation.

Another fancied objection to thorough mastication is that it interferes with the sociability of a meal.

This is also a senseless bugbear. It is true that one cannot converse freely with large morsels of food in the mouth. It is also true that it is nothing less than a *gluttonous* custom to greedily take a big mouthful of food, and, if accosted with a question, to bolt it in order to answer.

It will be found easy to carry on conversation without disagreeable interruption and yet follow Nature's demands in

properly masticating food by taking small morsels into the mouth. It will be found also to add to the real pleasure of eating, and eventually will become a habit by choice.

Another objection raised by those who are afflicted with the habit of gluttony is the lack of time permitted by their business occupation.

The time needed to appease the natural appetite of a hearty and active man, to compensate for the daily waste and keep the weight at normal, is from thirty to forty-five minutes for twenty-four hours.[1] This requires attention and industrious mastication. Divided into three meals it is less than a quarter of an hour for each meal.

[1] The actual time required by the author during the Yale tests to secure full alimentation, maintain weight, and fully appease a "workingman's appetite," was from twenty-four to twenty-six minutes, divided into two meals for each day. The common habit is to bolt food and waste time afterwards in torpid inactivity, while all the energy is busy in the stomach and intestines trying to get rid of the great excess loaded upon them.

Epicurean habits, however, incline one away from three meals a day and make two meals sufficient for ordinary activity.

One objector, on the spur of momentary discussion, claimed that in travelling by railway the time allowed for eating would not permit Epicurean methods.

The author arrived at Mobile, Ala., recently with a workingman's appetite and had only twenty minutes in which to get off the train, on again, and satisfy the appetite. There is an excellent lunch counter now at Mobile, and on the counter there was a tempting array of things to eat and drink. Appetite chose at once a fat, rich ham sandwich,[1] a glass of creamy milk and a hexagonal

[1] Five years of Epicurean enjoyment and study of the food instincts and food economics have taught the author to like many things better than slices of dead pig sandwiched between slices of delicious bread. Vegetarian extremist and faddist the author is not, but an attention to natural leadings inclines one away from dead meat, which is believed to induce much uric acid, and in favour of first-hand food elements as fresh from the heart and the breast of Mother Nature

segment of a mince pie. The twenty minutes was ample time for disposing of the sandwich and the milk, and meantime the mince pie had been wrapped in silk paper and placed in a paper bag to furnish Epicurean enjoyment for twenty miles on the road, enhanced by the beauty of a panoramic landscape.

If I had crammed the pie and the sandwich and the milk into my stomach in seven or eight minutes, which, by actual observation, is the gluttonous rate of despatching a station meal, I would have lost two-thirds of nutriment, more than one-half of taste and would have perhaps taken on twenty-four hours of discomfort, possibly inviting a cold. I would have created an " open door " for

as possible, leaving the second-hand, once-digested, already decaying, natural food of the savage *carnivora* and the emergency food of savage man for emergency occasions or a vegetable famine. Much meat excites lust, intemperance, and savagery in man and gives explosive, non-enduring force. The question is, do we need such force in the twentieth century, especially when we know that it tends to shorten life and predispose to disease?

any migrating microbes that were floating about in my atmosphere looking for strained tissue or fermenting food in which to build their disease nests.

Observation proves that you do not get much more nutriment out of your food than saliva prepares in some way for digestion, gulp though you may, but you can take in a load of disease possibilities in trying to force the food past or otherwise evade proper salivation.

SPIT IT OUT

Whatever does not insalivate easily is surely dangerous.

There is nothing more pronounced of expression by its influence on inclination than the impulsive desire to spit out of the mouth anything that seems unprofitable to the senses.

INSTINCTIVE DISCRIMINATION

Muscles have been provided for this purpose (separating, collecting, and spitting-out anything which the instincts

protest against) that are more facile than those of an elephant's proboscis, and these muscles move things to and fro in the mouth or expel them if they are undesirable.

If you acquire the habit of consulting the Swallowing Impulse and practise only involuntary swallowing in eating you will find that these muscles are very discriminating and will instinctively assist in the rejection of unprofitable matter.

Their sense of touch will soon discriminate against unprofitable food even when the sense of taste is fooled by some alluring sauce or condiment.

Nature is truly a marvel of good sense if you give her a chance to express her likes and dislikes without restraint.

Natural Appetite is the best possible judge of what the system needs, and the senses which Nature's Food Chemist employs in her work are unerring in their selection whenever they are permitted to act as intended by Nature.

* * *

GIVE NATURE A TRIAL

Try Nature's way for a week or a month and you will never have a desire to be even mildly gluttonous again.

One week of faithful trial without lapses should fix a habit of consulting involuntary swallowing as an automatic guide in eating so that attention will not have to be strained to heed it.

One week of constant attention to obeying Nature's demands in eating will so impress its usefulness on the student of Epicureanism that an accidental act of forced swallowing will be a shock to the sensibility.

One week of obedience of Nature's simple requirements will demonstrate that she imposes no penalties for following her natural requirements, but only for disobedience of her protective laws.

One week of earnest, open-minded study of Nature's first principle of life — nutrition — will convert a pitiable

glutton into an intelligent and ardent Epicurean.

DIFFERENCES

Individuals differ greatly in the quantity of the supply of the juices of the mouth which are active in salivation. They differ so much that it is safe to say that no two have equal provision.

One person may dispose of a morsel of bread in thirty mastications so that the last vestige of it has disappeared by involuntary process into the stomach. Another person, of similar general health appearance, selecting as nearly as possible an equal morsel of bread, may require fifty acts of mastication before the morsel has disappeared. The next week, by some change of conditions this order may be reversed. While there may be some structural or chemical difference in the two morsels of bread, this is not sufficient to account for the different mastications required. The dissimilarity lies in the difference of the copious-

ness and strength of the secretions at the time of trial.

This liability to changed conditions would constitute a serious danger if it were not for the protective Food Filter, or, Reflex of Deglutition, which Van Someren has so well described in the "A.B.–Z;" and whenever mouth-treatment of anything to be ingested is neglected, and forced swallowing — hasty bolting of food or gulping of liquid food — is indulged in, this protection is eluded and the danger is converted into actual internal self-abuse.

WARNING

Above all things don't *strain* to be careful. Strain inhibits — paralyses — all of the glandular functions and deranges the nervous nicety of adjustment. Just eat slowly, deliberately, small morsels, and sip and taste small quantities of liquids and observe what happens. You will soon learn to Know yourself and "Know Thyself" has been the

advice of all the sages from the beginning of time.

GLADSTONE'S RULE

Numbers of mastications as related to given quantities and kinds of foods are no guide to be relied upon.

Gladstone's dictum, "Chew each morsel of food at least thirty-two times," was of little value except as a general suggestion. Some morsels of food will not resist thirty-two mastications, while others will defy seven hundred.

The author has found that one-fifth of an ounce of the midway section of the garden young onion, sometimes called "challot," has required seven hundred and twenty-two mastications before disappearing through involuntary swallowing. After the tussle, however, the young onion left no odour upon the breath and joined the happy family in the stomach as if it had been of cornstarch softness and consistency.

It will be difficult, without actual demonstration, to convince the advocates of "Total Abstinence" that any whisky can be taken in a seemingly harmless form, but it is true that thorough insalivation of beer, wine or spirits, until disappearance by involuntary swallowing, robs them of their power to intoxicate, partly because appetite will *tolerate but little.*

TEMPERANCE PROMOTED

As a matter of fact, whisky taken in this analytical way is a sure means of breaking up desire for it, and it is an excellent protection in drinking as well as eating. Many of our test-subjects have been steady and some have been heavy drinkers but persistent attention to Buccal-Thoroughness has cured all of them of any desire for alcohol and in time it surely leads to complete intolerance of it.

It is also true that, taken in the way suggested, the body refuses to tolerate

more than sips and thimblefuls of these liquids and then only on rare occasions, so that the Epicurean habit is the best possible insurance of temperance.

NORMAL CONDITIONS RESTORED

While the difference in the supply of the juices of the mouth is an important factor in digestion, insufficiency need not cause alarm. Nature is so gladly and quickly recuperative that the moment abuses of her functions are stopped she begins to repair damages and reestablish normal conditions.

One of the subjects who submitted himself to experiment was found to be woefully deficient in saliva and, was a pitiable dyspeptic, but, as the result of patient mastication, the secretions gradually increased until they were ample, and dyspeptic symptoms disappeared even long before the secretions became normal. The strain of excessive and (acid) fermenting food being removed,

the acute discomfort was at once allayed even before the repair was complete.

"KNOW THYSELF"

"Know Thyself" has been the admonition of sages from earliest times. "Become acquainted with your Normal Instincts, with Appetite and with your food chemist, Taste, and follow their directions with implicit confidence," is the admonition taught by our experiments, for they can lead you to robust health and greatly increased vigour of body and mind. Study and heed them patiently for a week and you will follow their invitations and warnings through life.

Thorough repair of an impaired body may not be effected immediately, although wonderful results — almost miraculous — have been attained in three months; but a week's faithful and attentive study of the possibilities of Epicureanism, with right alimentation as its basic requirement, in adding to the

comfort and enjoyment of life will result in right eating being made philosophically and religiously habitual, and will give a backbone of Epicurean character that will not easily succumb to gluttonous impetuosity.

THE MIND POWER-PLANT

A USEFUL ANALOGY

All of the functions of the body are operated by something very much akin to electricity — mental energy — so that aside from the fermentation which gluttony makes possible, the mere drag of handling of dead material in the body, that the body cannot use, for two or three days, is a wasteful draught on the available mental capacity.

Using an electric power-plant as analogous to the Mind Power-Plant of the brain, and a trolley railroad as analogous to the machinery of the body — analogies which are very close by consistent similarity — the loading of the stomach with unprepared food, as in gluttony, is like loading flat cars with pig iron and running them around the line of the road in place of passenger cars, thereby

using up valuable energy and wearing out the equipment without any profit resulting from the expenditure.

To those who are familiar with the modern electric power-plant the analogy between it and the human individual equipment, or Mind Power-Plant, seems very remarkable.

To those, however, who have not visited an electric power-plant a description is necessary.

DESCRIPTION OF A MODERN ELECTRIC POWER-PLANT

Fuel, of course, is the source of the power. Furnaces which are capable of producing heat with the least consumption of fuel, tubes within the boilers that permit the freest possible contact of the heat produced and the water to be turned into steam, steam pipes that are flexible and yet strong, machinery that moves with the least friction in order to concentrate and utilise the power of the

steam, and dynamos out of which electricity is evolved, together with auxiliary pumps and hoists and blowers and what-not other devices to help create, control and economise the energy, are the essential parts of an electric power-plant. To insure economy and accuracy these are made as nearly automatic as possible.

At one end of the furnace house there is sunk in the cement floor a large iron scoop or tray into which cartloads of lump coal are dumped. This scoop-shaped receptacle is also the platform of a weighing machine so that each load is weighed. In the bottom of the scoop there is a trap-door, which, being opened, permits the coal to drop through between the teeth of a crusher where the large lumps are reduced, usually to the size of a small nut.

From the crusher the coal falls into the buckets of an endless chain-hoist and is conveyed aloft to great hopper-shaped bins which occupy the entire space under the roof over the furnaces.

Leading back from each bin to the constantly moving grate bars of the furnace underneath is a pipe which delivers the crushed coal to the grate bars and distributes it evenly over their surface as fast as it can be received into the furnace, regulated, of course, by the consumption that is going on inside the furnace.

To accomplish this automatic feeding each set of grate bars is constructed in hinged sections, and forms a wide endless iron belt which revolves and carries the coal within the cavity of the furnace.

The coal crusher, bucket hoist, movable grate bars, ash collectors and sifters, pumps, blowers, lights and all other utilities of the plant, as well as the great travelling crane which can hoist and carry many tons' weight — any part of the enormous dynamos — from place to place, are operated by electricity which is generated in the dynamos.

Automatic gauges that measure and indicate, and switch-boards that regulate the energy created and stored in the

dynamos play important parts in the economy and working of the plant and are analogous to appetite and taste in man.

ANALOGY ILLUSTRATED

The full analogy may be best illustrated by arranging the similar functions of the two energy-creating machines opposite each other in parallel columns.

ELECTRIC AND MIND POWER-PLANTS COMPARED

ELECTRIC POWER-PLANT	MIND POWER-PLANT
Fuel.	Food.
* * *	
Selection of fuel as to steam-making and economic qualities.	Selection of food for nutritive value; normal appetite serving as an exact guide and gauge.
* * *	
Crushing coal so as to render combustion as easy and complete as possible.	Masticating food so that the juices of the mouth can act on the substance with greatest freedom; taste being evidence of the working of the process.

* * *

Automatic conveyal of the prepared fuel, first to the bins and then on to the furnace as required.	Automatic reception of properly masticated and thoroughly insalivated food into Nature's Food Filter and emptying into the furnace of the stomach by Involuntary, or Compulsory Swallowing.
* * *	
Combustion in the furnace.	Digestion in the stomach and intestines.
* * *	
Generation of steam in the boiler tubes and storage in the boilers.	Generation of material for vital energy and storage in the body.
* * *	
Steam.	Blood in circulation.
* * *	
Steam Gauge.	Pulse.
* * *	
Engine.	Heart.
* * *	
Dynamo, with its numerous coils and extensive friction surfaces.	Brain, with its complex convolutions in constant frictional activity.
* * *	
Volt Gauge, indicating the power available.	Strength, indicating the available energy.
* * *	
Electricity.	Mind. Energy. Nervous Force.

AUXILIARY OPERATING MOTORS

Electric motors attached to the separate parts or machines of the plant, connected by wires and drawing power from the dynamos.	Nerve-cell motors attached to glands and muscles, connected with the brain by nerve-fibres and drawing on the mental or nervous energy for power.
* * *	
Automatic switches regulating the transmission of power to the motors in response to their fluctuating requirements.	Sensitive nerve ends terminating in each cell of the body and penetrating each gland, signalling, on being touched, for power to eject digestive secretions or oily mucus as demanded by the needs of digestion, also, supplying automatic power to muscles employed in exterior work or in moving the food substance on through the process of digestion and afterward disposing of the excreta — ashes and clinkers, as it were. The ganglions are the switch boards of the body.
* * *	
Automatic demand for fuel as required in the progress of combustion to supply the waste or	Appetite, indicating requirements of the Mind Power-Plant for replaceing the constant waste of

useful consumption of the electricity.

tissue consumed in running the machine.

* * *

Good Draught, forced if necessary.

Optimistic Thinking, forced if necessary, for *it is* necessary to health.

* * *

PROFITABLE MANAGEMENT

Intelligent Engineering.

Intelligent Self-Knowledge and Self-Care, assisting Nature in her good intentions.

* * *

Economic stoking.

Feeding only what is actually required for sustenance.

UNPROFITABLE MANAGEMENT

Overloading and choking the furnace with irregular and dirty coal.

Overloading and choking the stomach with unmasticated, unsolved, unconverted, and, therefore indigestible food.

* * *

Neglect of cleaning, oiling and repairs.

Nature is not neglectful; she does well and quickly all the lubricating and repairing of the Mind Power-Plant whenever strain is removed and she is given the required rest, or time to

accomplish the work between meals.

* * *

Unnecessary ashes and clinkers, encumbering the plant, depositing dust in the journals of the machines and requiring much power to handle and remove.

Unnecessary fermenting excreta, resulting from unfiltered and unprepared food, depositing poisonous sediment in the blood channels, straining the intestines, ossifying the cartilages, crystallising in the kidneys and bladder and drawing excessively upon the available energy of the nervous centres and the available brain energy for power to handle and discharge.

PROFITABLE DIRECTION AND USE OF ENERGY

Good wires leading to profitable uses.

Creditable aims in life.

* * *

Good insulation or isolation of circuit wires.

Concentration of purpose.

* * *

Resistance Coils.

Self-Control. Reserve force.

* * *

Success, evidenced by profit.

Success, evidenced by energy conserved and happiness secured.

UNPROFITABLE DIRECTION AND USE OF ENERGY

Small wires leading anywhere or nowhere.	Aimlessness of purpose and timid, lazy or selfish isolation from sympathetic currents and constructive occupation.
* * *	
Current carelessly grounded and electricity wasted.	Energy wasted in idleness or worry.
* * *	
Crossing of wires resulting in waste of power and possibly causing fire.	Crossed temper — Anger — wasting valuable energy and possibly leading to rash acts causing life-long regrettable foolishness.
* * *	
Placing flat cars on an electric trolley line, for instance, loading them with pig iron and purposelessly running them aimlessly around the circuit, thereby wasting the electricity and wearing out the cars and the line.	Importing worry through anticipated evil on an hundred-to-one chance of its being realised, thereby wasting energy and paralysing the digestive and repair functions of the body; painfully wearing out the body itself.
* * *	
Allowing cars to run wild instead of keeping them under control.	Permitting Anger to run away with cool discretion.

TELL-TALE EXCRETA

It is unfortunate that the perpetuation of early ignorant abuses of Nature's pure intentions has led to a too prudish attitude toward the one infallible evidence of health conditions as shown by the refuse of repair and digestion, as it is only by the excreta that ultimate indication of the results of nutrition are observable. They are the reliable report relative to the most important thing in health — digestion — and they must be understood in order to be read.

There is no knowledge so valuable in its relation to health as that which enables one to read health bulletins by means of the excreta.

Different foods contain different elements of waste material and to be able to identify or judge the economic value

of food previously consumed a knowledge of its digestion-ash is essential.

A child should be taught the difference between healthy and unhealthy excreta in order to be on guard at the first warning of disorder, rather than be allowed to remain ignorant until disease has taken firm hold of the system. The knowledge is not complicated and can be easily acquired by even young children.

When the possibility of perfect protection in the matter of nutrition is generally known, one mission of the physician will be to teach prevention of abuses of feeding by evidence of the excreta.

The healthy fæces of many wild animals is comparatively dry, odourless and cleanly; and a farm barn yard or a decently kept city stable is not an offence to even prudish prejudice.

Not so the vicinage of an open receptacle for the waste of human indigestion.

In animals, offensive egesta are evidence of digestive disturbance owing to some unintelligent feeding on the part of attendants; in humans the cause and effect of offensive excreta are the same.

When a race- or work-animal shows digestive disturbance the least intelligent owner or keeper knows that it is not fit for work or racing, and yet this symbol of unfitness is common to the human race.

One of the most noticeable and significant results of economic nutrition gained through careful attention to the mouth-treatment of food, or buccal-digestion, is, not only the small quantity of waste obtained but its inoffensiveness. Under best test-conditions the ashes of economic digestion have been reduced to one-tenth of the average given as normal in the latest text-books on Physiology. The economic digestion-ash forms in pillular shape and when released these are massed together, hav-

ing become so bunched by considerable retention in the rectum. There is no stench, no evidence of putrid bacterial decomposition, only the odour of warmth, like warm earth or "hot biscuit." Test samples of excreta, kept for more than five years, remain inoffensive, dry up, gradually disintegrate and are lost. The following observation by an eminent eye specialist and *litterateur* illustrates the opening paragraph of this chapter.

PERIODICITY

The question of "when" or "how often" the solid excreta should be voided or released is one that immediately presents itself when the subject is under discussion. The common opinion is that "once-a-day" periodicity is the proper and only healthy thing, and should a day pass there would be immediate fear of "constipation."

Under the best test conditions, before referred to, the ash accumulated in sufficient quantity to demand release only at

the end of six, eight, or ten days, the longer periods of rest being the evidence of the best economic and health results.

Under ordinary conditions of carelessness and strenuous environment, say an exciting and exacting city occupation, twice a week is as often as one should accumulate a deposit of digestion-ash and feel sure that the strain on the system is not excessive and dangerous. Young people seem to thrive even when delivering daily a large quantity of smelly excreta; but it is an abuse of the "ten-horse reserve"[1] with which the human engine is supplied; and along in the "forties" or the "fifties" or the "sixties" the body shows signs of premature wear when it should be but in its prime.

Another important matter should be mentioned in this exchange of sanitary confidences. When the ashes of diges-

[1] Dr. Meltzer's estimate of human reserve strength and resistance which must be out-worn or overstrained before death calls a settlement.

tion are dumped the body should assume the shape of the letter Z. It is the natural position of primitive man (squatting on his heels), and the body was originally constructed on that plan. If otherwise poised (sitting erect) the delivery of digestion-ash is performed with the same difficulty as would be experienced when trying to force a semi-solid through a bent or a kinked hose.

The publication of the observation of Dr. ——, here following, is a break-away from the prudery of a diseased and disgusting age, — a protest jointly shared by the scientific observer and the voluntary test-subject, whose only aim in the pursuit of the study to "a finish" is the ultimate benefit of the human race.

SCIENTIFIC OBSERVATION OF A LITERARY TEST-SUBJECT

"During his sojourn in Washington in July, 1903, I saw much of Mr. ——, and in a very intimate way. The weather

at that period was very hot, sometimes near 100°, and very sultry. For ten days or two weeks in the midst of this season he was busily engaged in constructive writing, turning out on an average some eight thousand words on his typewriter daily, which meant a close application for ten or fourteen hours each day. He usually began his work at from two to five o'clock in the morning, continuing often until three or four o'clock in the afternoon, when we would commonly go together to a ball game, which he enjoyed with the enthusiasm of a boy of twelve. Later in the evening he would resume his work for from one to three hours, retiring at from ten to about midnight. His food consisted of a glass of milk with a trace of coffee, and corn 'gems,' four of which he consumed in the twenty-four hours. Occasionally he would add in very hot weather a glass of lemonade. There was at no time any evidence of mental or physical fatigue. That such an

amount of work, with the maintenance of perfect health, could be accomplished on such a small quantity of food can be accounted for only on the assumption of a complete assimilation of the ingested material. As the degree of combustion is indicated by the ashes left, so the completeness of digestion is to be measured by the amount and character of the intestinal excreta. A conclusive demonstration of thorough digestion in Mr. ——'s case was afforded me. There had, under the *régime* above mentioned, been no evacuation of the bowels for eight days. At the end of this period he informed me that there were indications that the rectum was about to evacuate, though the material he was sure could not be of a large amount. Squatting upon the floor of the room, without any perceptible effort he passed into the hollow of his hand the contents of the rectum. This was done to demonstrate human normal cleanliness and inoffensiveness; neither

stain nor odour remaining, either in the rectum or upon the hand.[1] The excreta were in the form of nearly round balls, varying in size from a small marble to a plum. These were greenish-brown in colour, of firm consistence, and covered over with a thin layer of mucus; *but there was no more odour to it than there is to a hot biscuit.*

"The whole mass weighed 56 grams. The next day there was a further deposit of the same kind of dry-waste, making 135 grams (about $4\frac{3}{4}$ ounces) for the nine days. It seems to me there could be no more conclusive evidence of complete digestion and assimilation than this. The existence of perfect nutrition is indicated by his ability to continue, without fatigue and under trying conditions, work which could only be accomplished in an ideal condition of health.

"WASHINGTON, D. C., July 31, 1903."

[1] Similar specimens of digestion-ash have been kept for five years without change other than drying to dust.

WHAT SENSE?
TASTE[1]

The Sense of Taste has a value in relation to nutrition that has not fully been appreciated.

Taste has been considered the lowest, in usefulness, of all the senses.

On the contrary, if properly understood, taste is one of the most important of all the faculties man possesses.

Taste has lacked appreciation, for the reason that it has been supposed that it catered to sensuality, in the vulgar sense, and performed the function of devilish temptation rather than that of natural invitation and protection.

[1] "Glutton or Epicure" was originally composed of two smaller booklets entitled "Nature's Food Filter; or, What and When to Swallow" and "What Sense? or, Economic Nutrition;" bound together. In this revision the order has been retained with some repetitions, but with different applications.

Upon an examination, that any one can make for himself, however, it is revealed that taste is the faithful servant of appetite; the sentinel of the stomach, of the intestines, of the tissues and of the brain, whose guidance and warning, if heeded, will give heretofore unknown enjoyment of eating, and at the same time insure perfect health and the maximum of strength.

* * *

TASTE IS THE GUIDE AND GUARD OF NUTRITION

The more we learn, the more evident it is that there is a *Perfect Way* locked, or, rather, enfolded, in all of Nature's secrets, and that it is intended that man shall sometime discover them.

Taste, in its normal condition, when allowed to direct or advise, serves several important functions, not the least of which is as first-assistant to Appetite. Appetite craves the kind of nourishment the body needs, invites to eating, gives

enjoyment during the whole time needed for the fluids of the mouth and the stomach to do their part of the digestive process. Taste ceases when the food is ready for the stomach and thereafter fails to recognise the indigestible sediment which remains in the mouth after nutriment has been extracted; and, in these discriminations, if consulted and obeyed, Taste and Appetite prevent indigestible matter from entering the system to burden and clog the lower intestines, form deposits in bone, cartilage and kidneys, inflame the tissues, and otherwise create conditions favourable to the propagation of the microbes of disease.

The normal sensitiveness of taste can be recovered, if already lost, in the course of a week, or two weeks at most, by means of the stimulating and regenerating influence of natural body-repair, if the method of taste and appetite cultivation recommended in this book is followed.

Those who now enjoy good health will find a new joy in living when they have discovered the intelligent use of taste and submit the fuel of their Mind Power-Plant and strength to the analysis and selection of Nature's instinctive agents.

LATEST DEFINITION

Dr. William T. Harris, in his latest contribution to the "International Education Series," *Psychologic Foundations of Education*, defines the presently appreciated value of the sense of taste, as follows: "The lowest form of special sense is taste, which is closely allied to nutrition. Taste perceives the phase of assimilation of the object, which is commencing with the mouth. The individuality of the object is attacked and it gives way, its organic product or inorganic aggregate suffering dissolution — taste perceives the dissolution. Substances that do not yield to the attack

of the juices of the mouth have no taste. Glass and gold have little taste as compared with salt or sugar. The sense of taste differs from the process of nutrition in the fact that it does not assimilate the body tasted, but reproduces ideally the energy that makes the impression on the sense organ of taste. Even taste, therefore, is an ideal activity, although it is present only when the nutritive energy is assimilating — it perceives the object in a process of dissolution.

"Smell is another specialisation which perceives dissolution of objects in a more general form than taste. Both smell and taste perceive chemical changes that involve dissolution of the object."

If this is the recognised estimate of taste, which is true as widely as I have been able to inquire, both among physicians and among the latest books on health, it is certainly a case of neglected appreciation such as the world has not witnessed up to the present time.

* * *

PRESUMED CAUSES OF DISEASES

On the undisputed authority of physiologists it is known that all diseases are made possible by derangement which is favourable to the propagation of the microbes of disease, or by deposits of inharmonious matter which are not thrown off.

Derangement of all the substance of the internal body is effected mainly, and probably entirely, by deposit of indigestible food or of tissue which is broken down and is not thereafter expelled from the system by the ordinary means provided for the discharge of waste.

These inharmonious deposits which cause so much direct and indirect trouble are mainly, and probably entirely, the result of excess of eating, or of wrong eating, so that the digestive organs of the body cannot take care of what is forced on them; or, of admitting substances which they are powerless to make into

good blood or discharge by the regular means provided by nature.

Right eating and right food are, then, the all-important considerations of health, as far as the tissues are concerned; and, as the tissues are themselves the stored food or fuel of the brain and the nerve centres, the importance of perfect nutrition extends to the most vital functions and interests of life.

TARDY APPRECIATION

All experience warns against overeating and improper eating as the most common causes of disease; and troubles of the stomach and intestines are known to be the parents of all other bodily ills; yet no fixed guide has been set to determine what is "overeating" and what is "improper food." The reason for this is probably because no two bodies require the same quantity or kind of nourishment, and, "What is one man's food is another man's poison."

Nature has not been so unkind, how-

ever, as to leave man without a means of knowing just how to gauge the quantity of food required for her best service, and probably, when we learn the secret, has equally well provided us with certain discrimination relative to the quality of food that is best for harmonic development.

Investigation never fails to find provision for both guard and guide in all of Nature's plans and man's nutrition is of such importance that she surely has not left it out of the list of the protected.

Of the power of taste to discriminate accurately in the matter of comparative value of foods I am not sure as yet, although I am confident the power rests somewhere within our reach if we can only discover it; but I have the best evidence possible that taste has the power to advise accurately in the matter of the *kind* of food and the *quantity* required; and, having selected what it wants or needs out of a morsel of food, rejects the rest by ceasing to taste.

The message or warning which taste gives in connection with eating is, "THAT WHILE ANY TASTE IS LEFT IN A MOUTHFUL OF FOOD IN PROCESS OF MASTICATION OR SUCKING, IT IS NOT YET IN CONDITION TO BE PASSED ON TO THE STOMACH; AND WHAT REMAINS AFTER TASTE HAS CEASED IS NOT FIT FOR THE STOMACH."

WHAT SENSE?

When one comes to think about it, what sense is there in throwing away a palatable morsel of food when the taste is at its best, or while taste lasts at all, even if the purpose of the meal is merely to contribute to the pleasure of eating?

"Some people live to eat and others eat to live" is a saying that is familiar to everyone, and yet how few appreciate that the perfection of living includes the perfection of both these desiderata!

Such is the impetuosity of uncultivated or perverted human tendencies that the desire for acquisition, some-

times called greed, impels one to swallow one mouthful of food to take in another, without ever dreaming that the very last contribution of taste to the last remnant of a delicious morsel is like the last flicker of a candle, more brilliant than any of the preceding ones. In eating, the last taste, when saliva, the medium of taste, is most perfectly in possession of the solution, is better than all the other stages of the process. It is the choicest and sweetest expression of the incident, as related to each mouthful. Then why not court it and obey, thereby, Nature's first law of health?

* * *

Before proceeding further with a description of its functions it may be well to state briefly the certain result of following the guidance and heeding the warnings of taste.

Taste determines the mastication of food so that the requisite quantity of saliva and other juices of the mouth are added in transit, so that the stomach

and the intestines will have the least possible to do in the matter of conversion of the food to blood, and so that the brain and nerve centres will be taxed the least possible to assist the stomach and intestines in their work.

If Taste is heeded in its invitation and its warnings, that which passes into the stomach will be so suitable and ready for nourishment of the body that the smallest possible quantity will serve the purpose and almost no waste will be left to tax and disease the lower intestines, while the absence of fatally inharmonious deposits in the tissue and bone will cease to exist in proportion to the skill with which one interprets the warnings of Taste, and in response to the care taken in following them.

DISEASE PREVENTED

It is said that none of the microbes of disease can live an instant, and hence cannot propagate, in a perfectly healthy

human tissue. It *is possible* to secure the perfectly healthy human tissue, to both the generally healthy and to those who are afflicted, unless too far gone to reform, by keen attention to the direction of Taste, and the reward of the attention is manifold. The actual pleasure derived from eating under the direction of the method suggested herein cannot be equalled by any other means.

* * *

While cheerfulness, hopefulness, good nature, charity and all the mental good qualities are splendid forced-draughts of oxygenised impulse that assist the stomach in consuming and otherwise in taking care of any erratic or excessive food supply, and are able to help take care of a moderate glut of material; Taste, if allowed to serve its full purpose, furnishes its own draught of cheerfulness by means of the very pleasure it distributes, and at the same time it prevents, instead of inducing, gluttony.

* * *

There are two ways of putting a limit to a meal — to eating. One — the wrong one — comes in the shape of a protest on the part of a too full stomach while the appetite is yet ravenous. The right one comes naturally from a perfectly satisfied feeling — a ceasing of desire for anything more, no matter how previously alluring to the palate, before the stomach is overburdened. The former is evidence of glut, or gluttony, and the latter is Nature's way, for which there is every desired reward.

SOME EASY EXPERIMENTS

It is a very easy matter to prove for one's self that ample saliva is essential to the most economic and perfect digestion; and also, that no two mouthfuls of food require the same quantity.

Experiment will be doubly interesting in that it reveals pleasure of taste in eating that has not before been enjoyed.

The function of saliva in digestion has commonly been understood to be the lubrication of the food so as to enable it to be swallowed. The truth is that it is the first and most important solvent necessary to digestion, the good offices of which are to separate, make alkaline, neutralise, saponify, and otherwise render the succeeding processes within the delicate organs of the body as easy as their delicacy requires, and thus not to strain and inflame them into festering breeding grounds for the myriads of microbes of diseases which we are compelled to draw in with every breath of air we inhale.

Drawn into a perfectly clean and healthy organism, some microbes aid and are a part of life, but taken into a system clogged by dirt and strained by overwork, these same harmless creatures become agents of destruction. Bacilli may be either friends or enemies and we have the choice.

* * *

NATURAL LIFE LIMIT

It is said that the natural life of all animals, left to pursue a natural existence by being protected from the enemies of their species, and in reach of sufficient nourishment, is six times the growing period. If this is so no man need die or move his soul to another habitation until he has occupied the present one for from one hundred and ten to one hundred and forty years. If the proper use of the instincts and senses be conserved in children, the growing period may be prolonged to probably twenty-five years with a resultant tenure of life of one hundred and fifty years.

I have personally interviewed a patriarch, who, at sixty-five, was awaiting death with constant expectancy, and was helping to attain it by every sort of favourable suggestion. It happened that he had his portrait taken in a photograph gallery on his sixty-fifth birth-

day as a last souvenir to be distributed among his friends. Shortly after that, in the fruity and salubrious foothills of the Pacific Coast of California, he met with accidental suggestion which changed his habits of living, and, very soon, his attitude toward life and death.

I sat with the patriarch on his one hundredth birthday in the same photograph gallery, examined the portraits of sixty-five and one hundred years, conversed with the subject in a low tone of voice, looked upon a man who felt that he was yet in middle life, and in possession of an enjoyment of life that he said had never been equalled in the early years of his bondage to the ignorance and impatience of youth.[1]

* * *

STUDY NATURE

Watch good Nature, observe her methods, try to imitate them by way of experiment, and you will find that,

[1] The rejuvenated patriarch is still alive in 1903.

as heretofore stated, there is a *perfect way* enfolded in all of Nature's problems and that man has only to discover the way to have it freely accessible to him.

Watch a child take its nourishment in natural manner. The sucking action is like the act of mastication in that it excites the glands which supply fluids to the mouth. Whatever number of these fluids there may be, I will class them all as saliva. Certainly in the case of milk being taken into the stomach, saliva is not needed to lubricate it. It is, therefore, reasonable to suppose that saliva is intended as a part of the mixture necessary to digestion; that is, to the conversion of the food into nutriment.

In the case of children nourished at the breast of the mother — the only natural way — the food is already alkaline and ready for digestion in the stomach and intestines as related previously.

Remember also that, in the case of invalids with very weak stomachs, phy-

sicians recommend taking milk and broth through a straw or through a glass tube. Taking fluid this way requires a sucking action of the mouth and thereby induces a flow of saliva. *Of course*, the fluid is better digested than when drunk because Nature's way has been followed, and it is no wonder that milk and often soups of different kinds are indigestible, if taken contrary to the natural way, except in digestive systems which have not yet exhausted their ten-horse-power resistance capacity.

I have tried milk and soups upon a stomach trained down so fine that it was like a pair of apothecary's balances, sensitive to the least inharmony, to find that if they are drunk there is a mild protest — a sort of a shrug of the shoulders, as it were — and that when the same liquids have been moved about in the mouth for the time necessary to naturally excite the Swallowing Impulse, they have passed into the stomach without the owner being con-

scious afterwards of their presence except by feeling of complete satisfaction.

It would seem, therefore, that the perfection of nutrition requires the proper mixture of saliva added to *all* food substances, and that mastication is not only a means of separation in order to give saliva a chance but a valve opener for salivary glands in order to make the proper solution for the stomach; and, that taste exists, in one of its important functions, to indicate how long the process should continue and when it has effected its healthful purpose.

Any one who tries it, no matter how perverted the taste has become by abuse, will find that Nature is not only kind but alluring. Meat or bread, without sauces or butter, are tasteless, in a degree, when first taken into the mouth dry. It is for this reason that butter, sauces, salt, sugar, etc., are used to make them what is called palatable. It is the salt or the sugar or other

spices in these which excites the palate immediately when the dry morsel would not do so in such marked degree.

If you take the meat or the dry bread and masticate sufficiently, allowing the nutriment to become thoroughly solved by the saliva and separated from the *dirt*, — the indigestible, tasteless remainder — the taste will become more and more delicious as the saliva gets possession of the solution, and will have a final delicacy which sauces cannot equal, as a reward for pursuing Nature's invitation and rendering her the appointed service.

An easy experiment that will prove the above statement to be correct is to take a variety of breads, white and brown, toasted and untoasted, crust and soft, and afterwards some of the same soaked in soup or milk, or, in the juice of whatever meat you happen to have at your meal.

Taken dry, toast will only reduce and disappear, without effort of swallowing,

into the stomach, leaving no tasteless dregs behind, after about thirty actions of the jaw. This is probably the reason why toast is an invalid's best diet; because mastication is required to crush it, saliva is liberated by the acts of mastication, less saliva is required to prepare toast for the stomach than any other form of bread, and therefore, the proper conditions are attained *perforce*, and easy digestion is promoted. Crust of French bread will do the same by means of about forty jets let loose by mastication; the soft inside of French bread will require fifty, or more; crust and inside of biscuits and of "home-made" bread somewhat more than the French bread; while "Boston brown bread" requires as many as seventy to eighty jets turned on by action of mastication to dissolve it.

The above refers to moderate mouthfuls. The process is incomplete until all is dissolved, taste ceases, and natural swallowing occurs.

Will it not be observed that mastication, as far as crushing or mangling is concerned, has small part in the reduction of "Boston brown bread," and little seeming use except to turn on the jets of the solving saliva, for the material itself is soft, and sometimes "mushy"? Saliva has little use as a lubricant in this case, for the reason that the brown bread experimented with can be easily swallowed when first taken in the mouth. Abundant experiment has been made by those to whom "Boston brown bread" was formerly little less than a poison, to prove the assertion that, sufficiently mixed with saliva, it is perfectly digestible and that the delicious taste of the bread after forty or fifty bites ($\frac{1}{3}$ to $\frac{1}{2}$ minute) gets sweeter and sweeter, and attains its greatest sweetness and most delicate taste at the very last, when it has dissolved into liquid form and most of it has escaped into the stomach.

It will be noticed that the time, or attention, required to solve these differ-

ent problems of nutrition as embodied in different sorts of breads is exactly proportionate to their recognised digestibility, and explains the reason why hot and "soggy" biscuits, after the American fashion, and "Boston brown bread" have been classed as not easily digestible.

Still further proof of my contention in favour of the importance of taste as a guide and guard in the process of nutrition is that, if you soak soft bread, or even toast, in the juice or gravy of any meat, the number of masticatory or tasting movements necessary to fit it for the stomach and satisfy the taste will be about the number required to masticate raw meat from which the juice has come and not such only as would seem requisite on account of the softness of the substance when made pulpy by soaking and which might be forcibly swallowed at once.

Tests like these alone are sufficient to prove my contention, but, when the result of the experiments is so immedi-

ate for good in every direction, as it has proved itself to be in all cases tried, there is no longer doubt but that Nature's most important secret relative to human alimentation has been heretofore practically undiscovered; that is, as far as any inquiry I have been able to make sheds light upon the subject.

The result, in all the cases of my observation, has been an immediate response of naturally increased energy; approach of weight toward the normal, whether the subject was over-weight or under-weight; a great falling off of the waste to be discharged by the avenue of the lower intestines and also through the kidneys; relief of bleeding hemorrhoids and catarrh — the diseases suffered by the patients; emancipation from headaches; clearing of the tongue of the yellow deposit — usually called fur — that is an indication of rotten conditions in the stomach; and return of the energy for work which all men and women should have, and which

finds expression in healthy children in the form of great energy for play.

The tax upon the lower intestines has been, in my experiments, reduced so that there was no invitation to relief more frequently than once in four or five days, and the quantity of the deposit was less than half the quantity of a usual daily contribution to waste under former methods of taking in nourishment, thereby proving the fact that appetite and taste, when given full chance to serve, serve us well.

This feature (quantity of waste) differed in the cases of the different persons experimented with according to the carefulness with which they obeyed the test injunctions. In some, greed abnormality could not quickly be overcome, but, as the subjects were selected in part from the stratum of society where want is the constant dread, it is not to be wondered at that a lifetime habit of tremor and greed should resist even the dictates of their reason. But it was in

these that the revelation excited the highest appreciation at last when they were put in possession of faculties and strength that they had supposed the Creator had denied them in a world of suffering.

There is no doubt but that it is possible to introduce nutrition into the system wherein, or rather wherewith, there is little or no waste material.

One physician, to whom I applied for information, suggested that too fine an application of my method might finally do away with the lower intestines altogether from the same cause that any unused member of the body, and also unnourished members, shrivel and disappear in time.

While this is possible, the means taken towards it are productive of marvellous good results; and, if there were no further use, what purpose would they serve?[1]

[1] Dr. George Monks of Boston, Massachusetts, has recently called the attention of the author to the fact that the length of the intestines in man have been known to vary from nine feet to twenty-nine feet.

Think of the number of separate complaints that are attributable to trouble of the lower intestines, and think of the relief coming with their return to normal conditions in performing infrequent service with the ease of rejuvenated strength! Such was the case with all of the subjects under test, and it was a revelation which was as the opening of a new life to even those who had suffered least, and had thought themselves fortunate as to health conditions.

I hope I will be excused for using the terms "dirt," "rotten," "glutton," etc. I know they will give a shock to

In the longer ones the *papillæ convenenti* which serve for absorption and which line the inside of the intestines extended only part way down the channel, but in the shorter ones they lined the channel throughout its entire length, giving inferential evidence that the strain of continued excess of waste material had lengthened the intestines for the sole purpose of providing storage room for the waste. Metchnikoff, the head of the Pasteur Institute, Paris, has even proposed removing some eighteen feet of intestine by surgical operation, including the troublesome vermiform appendix, as being unnecessary in connection with cooking and the prevalence of partly predigested foods.

sensitive conventionality, but is it not better to shock conventionality with a proscribed term, if it means just what it says, and nothing else, than to shock the delicate organism of our machinery of life by throwing dirt into its furnace with good fuel, and thereby allowing the glut of ashes therefrom to encumber the journals of our mechanism, to the waste of our power and to the wearing out of our machinery?

* * *

Disease is nothing but dirt in the system and the result of dirt. It is our own dirt at that, having been introduced by our own carelessness or as the result of combined ignorance and greed.

Ignorance has excused and does excuse the responsibility; but, when we have providentially been provided a way by Nature to select and sift and prepare perfect fuel for the furnace of our Life-Power-Plant, there can be no further excuse for not following the

teaching to the extreme of the last possible refinement.

* * *

I will not presume to say what and whom good Doctor Appetite, with the assistance of Doctor Taste, can cure. They have both cured and greatly relieved rheumatism, gout, eczema, obesity, under-weight, bleeding-piles, blotches and pimples, catarrh, "that tired feeling," muddy complexion, indigestion, and yellow-tongue, within four months. It has been revealed that attention to their invitation and warning cures unnatural craving and beautifully appeases appetite desires with one-third the usual food; and, at the same time, they teach an appreciation and enjoyment of food quite new even to *bon vivants*.

Any person can employ Dr. Normal Appetite and consult Dr. Good Taste *free of all charge*, and make endless discoveries in the possibility of delightful and healthfully economic nutrition.

The suggestion was originally given

by the author in crudest form with the assurance of physiologists that trial of it involved no risk, but, on the contrary, that it led in the right direction toward preventing disease. I felt that it was too important to be withheld from those who do not know the existence of Nature's *perfect way* provided by the Senses of Appetite and Taste.

Record of careful tests and results will probably follow in another volume. The author has entered the field of investigation to find deterrents to Nature's perfect development and will not rest while any remain.[1]

With even the crude hint, *that health can be secured and maintained by consulting and respecting Appetite and Taste*, each person having either can assist in the investigation.

[1] At the present time, five years after this promise was made, the author is happy to say that it has been faithfully kept and with important results steadily accruing.

SUGGESTION AND DIRECTIONS

For initial experiment, do not change any of your present habits of living as to time of meals, kind of food, etc.

Following the directions given hereafter will undoubtedly lead to just the right thing for you in these regards.

There is no doubt but that the early morning meal is not productive of the best results in nutrition and strength, but it is better to have Appetite suggest the necessary change in accustomed habits. Dr. Dewey's advice in the "No-Breakfast" regimen is excellent. The getting-up craving is not an *earned* appetite.

Forced abstinence from a heavy morning meal will *surely* bring about normal conditions of appetite which are best adapted to perfect nutrition, so that if the invitation to give up the morning gorge voluntarily does not overcome perverse habit, the heroic denial may be tried.

The value of the discovery lies in recognising the fact that Taste still has important work to do with passing food while yet there is taste, and that what remains after Taste ceases to express itself should *not* go into the stomach.

The ease with which one will learn to enjoy and "hang on" to food in the mouth, even milk and soup, after he has learned a good reason for doing so, will quickly create a counter habit which is in accordance with Nature's *perfect way*.

When one has discovered the delight of *that last indescribably sweet flash of taste*, which Taste offers as a *pousse café* to those who serve it with respect, he will find *any* food that Appetite selects is needed for his nutrition, and is good.

Remember this! Salt, sugar, some sauces and spices which are used to make food palatable may be in themselves nutritious, but do not let them mislead you. The tendency is to relish them and think that they represent the food they disguise, which, however, is

often only an excuse for them, and has very little nutrition itself. In this case a morsel of food is taken into the mouth, the sauce or spice which it carries meets immediate response from Taste and disappears, whereupon the indigestible food morsel is swallowed in indigestible condition so as to admit another sauce-laden supply.

The most nutritious food does not require sauces. It may seem dry and tasteless to the first impression, but, as the juices of the mouth get possession of it, warm it up, solve its life-giving qualities out of it and coax it into usefulness, the delight of a new-found delicacy will greet the discoverer.

It may be difficult, at first, to avoid swallowing food before it is thoroughly separated, the nutriment dissolved and the dirt rejected, but after a little practice there will be no difficulty. On the contrary, there will be an involuntary habit of retention established that will be as tenacious of a morsel of food till

that last and sweetest taste has been found, as a dog is tenacious of a savory bone.

Did it ever occur to gum chewers that the gum is simply an exciter of saliva, and that the sweet taste is the nutritious dextrin in the saliva and has nothing to do with the gum? In the ordinary "watering of the mouth" the same sweet taste is experienced.

Another important fact in this connection, and which belongs in the list of "directions" because it is a leader, is, that perfect nutrition is a source of ample saliva, the effect thereby reproducing the cause in friendly reciprocity.

It will be found that, when normal conditions have been attained through attention to the inspection, selection and rejection of Taste, when the tongue has lost its malarial yellow scum and when Hunger is represented by healthful Appetite and has dismissed bilious and insatiable Craving from its service, there will at all times be a delicately sweet

taste in the mouth which will prevent craving for anything else. For instance, a person in possession of normal taste conditions may pass a confectionery shop or a fruit stand without temptation to eat of their wares, for they would *spoil* the taste already in possession of the mouth.

The expert wine tasters in Rhineland, where the full flavour of the luscious fruit is retained in the wine as Nature put it there, never *drink* wine. They breathe it into the mouth and atomise it on the tongue with utmost relish. To them the swallowing of the precious juice without dissipation by taste is an unpardonable sacrilege. The Bavarians also, whose beer is the best in the world, practically do not drink beer as Americans are accustomed to seeing it drunk. They sit over a *stein* of beer for an hour, reading or chatting with friends. The epicurean drinkers of what has been termed *eau de vie* in France sit and sip a "pony" of their

beloved Cognac while they enjoy a view of pastoral loveliness or a throng of passers-by in a boulevard of Paris. None of these people drink anything but water and hence are not drunkards; and, at the same time, they have full enjoyment of Nature's most stimulating and delicious compounds in a form preserved by Nature for the use of man.

The taste of these students of nutrition becomes so discriminating that they can distinguish a wine or a beer or a cognac, as they would distinguish between intimate friends and strangers. The year, the vineyard, the state of the weather, or any accident that may have surrounded the development of the fruit are as distinguishable to these epicures in the essential juices as are the marks on men which indicate prosperity, happiness or any stamp of environment whatever.

An epicurean cannot be a glutton. There may be gluttons who are less gluttonous than other gluttons, but epi-

cureanism is like politeness and cleanliness, and is the certain mark of gentility.

A physiological chemist, a friend of the author, who is responsible for the suggestion that the function of saliva in turning the starches of our food into nutritious glucose may never have been fully given a chance to act, thus accounts for the last delicate sweet taste which is attained by complete mastication. It is then a *perfect* solution, and hence the delicacy of the taste.

For illustration, try a ship's biscuit — commonly called hardtack — and keep it in the mouth, tasting it as you would a piece of sugar, till it has disappeared entirely, and note what a treasure of delight there is in it.

Taste will teach the experimenter more than I can even suggest. I simply offer an introduction to Doctor N. Appetite and to Doctor G. Taste and state some of their excellences that I have discovered through their attentions to myself and others under my direction.

I will, however, give a *resumé* of my own experience as a guide.

PERSONAL CASE, INITIAL CONDITION

Age, 49 years; height, 5 feet 7 inches. Extremes of weight for fifteen years (in ordinary clothing) minimum, 198 lbs.; maximum, 217 lbs. Chest measure, varying but little, if any, 42 inches; waist measure (tailor's) 43 to 44 inches. Usual weight during the time, about 205 lbs.

My experiments began near the middle of June, but with no systematic application until the middle of July, 1898; weight on June 1st, probably over 205 lbs., in summer clothing.

SPEEDY IMPROVEMENT

On October 10th, as a result of the experiments, weight 163 lbs., and stationary; chest measure same as before, but waist measure reduced to 37 inches, or one inch below the "tailor's ideal," and nearly down to the "athlete's ideal."

The energy and desire for activity with immunity from fatigue, which was the characteristic equipment of twenty years ago returned, but not, of course, the trained muscular strength or suppleness of athletic days.

The food invited by Appetite at this stage, the nutriment in which counterbalanced the waste in each twenty-four hours, consisted of about thirty ordinary mouthfuls of potato, bread, meat, or anything selected by Appetite, masticated and manipulated to the end.

One meal a day was taken for convenience, and because it seemed, under the then existing circumstances, hot summer weather, to be the time set by Nature for eating. "I rise in the morning," as a champion pugilist once put it, "when my bed gets tired of me," which at the time was usually before, or at, daylight, and began writing or other work. By one o'clock I usually was "worked out," but had already disposed of practically a day's work. Then, in

the middle of the day, when all the animals rest and some of them chew the cud, I took my meal. I had not, meantime, experienced a moment of craving for *anything* since the meal of the day before, but I sat down with an epicurean appetite.

The article of food on the *menu* that first attracted me, I fixed my desire upon. At the time it was usually a meat or a fish, and there accompanied it only a cup of coffee, nine-tenths milk, bread and butter, and potato. Sometimes the meat selected was an *entrée*, and was garnished with rice and other fruits or vegetables.

About thirty mouthfuls of these, disposed of in something less than twenty-five hundred acts of mastication or other movement of the mouth, and taking about thirty minutes to thirty-five minutes, satisfied the appetite so perfectly that all the ices and desserts on a sumptuous bill of fare had no attraction.

In the meantime, water was drunk,

in small portions slowly, and ice water at that, without restriction, to satisfy thirst, *but not* when any food was in process. In the mouth the water was almost instantly brought to body-temperature and its coolness was very agreeable to all the senses. I now rarely take any water except in very hot weather when perspiration is active and then only enough to quench thirst, excess giving discomfort and necessitating more perspiration. Water injures digestion by being taken with meals only because it is used to wash down food not yet prepared for the stomach. It is the unfit food that is carried down by it and not the water that does the harm.

One cup of *café au lait*, well sweetened, sipped and enjoyed according to the epicurean method, satisfied all desire for other sweets and created a harmony of variety that was simply perfect, while it was perfectly simple.

I did not try to work, or think, for some time after the meal; that is, I did

not force thought; but reading, a cat nap, a walk, a matinée, a ball game, or a ride in a trolley car were recreations which I was able to enjoy as a sort of *pousse café* for two or three hours after the meal, and then the energy for work returned, so that if there were something yet to be done in the time before the accustomed bed hour, another day's work was easily accomplished.

Athletic work, physical labour, extreme activity in any form, all benefit by the same treatment, as I have since been able to prove both personally and by experiment with others. The only difference is the greater waste of tissue, and the greater need for restorage, demanding an evening meal and possibly an earlier midday meal.

Exercise, work, activity — anything that creates a demand for nutriment is the especial friend of Taste. It gives healthy appetite and hence there is plenty for Taste to do and he likes to be of service.

At first, rules have to be followed in order to serve Economic Nutrition to the best advantage, but they soon become habits of life, or living, that will naturally come of themselves from attention to Taste according to these directions.

It has been our experience, that if there are any diseases growing out of overstraining of the lower intestines, kidneys, liver, etc., they will soon disappear.

Perfect nutrition does away with the waste until there will be no invitation to discharge oftener than once in four or five days, when the response will be easy and final, with less than half the quantity of an ordinary daily contribution.

There are wealth, health, strength, long life, abundant usefulness and much resultant happiness offered as a reward for learning and following Nature's Perfect Way.

When we learn that obeying Nature's Laws emancipates us from the slavery to cravings of unnatural appetite, releases us from constant attention on meals,

does away with at least half the drudgery of woman's work and makes us immune from the attacks of microbes of disease, it is then no hardship to take a few lessons in the Art of Economic Nutrition.

Every artificial method that has been suggested to coax Nature into changing her problems to suit man's poor interpretation has failed, but Nature has been patient withal. Her door to reform is never closed, and her patience is boundless towards prodigal and foolish children.

Nature has put the keenest of the senses at the threshold of life to serve both as hosts and servants, but Appreciation has heretofore failed to recognise their true office, while Ignorance, blinded by Greed, has spurned and abused the best of servants.[1]

[1] The "symptoms" in the personal case of the author described above persist after five years' test and experience. The endurance-test of the half-century birthday in France, the observations of Dr. Burnett in Washington, and the examinations in the laboratories of Cambridge and Yale all tell the same story of a

SOME PERTINENT QUERIES

If Nature has revealed a *perfect way* to the easy solution of all of her problems, as related to the affairs of animals and plant life, WHAT SENSE is there in thinking that she has discriminated against her Chief Assistant in Cultivation, Man?

If Nature has provided animals with keen discrimination in the matter of

reformed and increasing efficiency even with five years of added age handicap, so that the logic of the advice originally given in this book stands proved, so far. I have had my weight reduced from 217 pounds to 130 pounds and felt best when lightest. I carry my weight at any figure desired, but most of the time carry a 20-pound handicap in winter and sometimes in summer to calm the fears of solicitous friends, who think I must be ill when I am not looking "robust." Extreme robustness is a great danger to life. A partner of the author in early days in California, several years his junior and just in the prime of life and fortune, passed away from over-robustness, as have many of the world's brightest and best citizens. Six of the author's chums of ten years ago have died because of too much robustness and worry. They heeded not. The author may follow them, any moment, but meantime he is enjoying life as never before.

healthful food, WHAT SENSE is there in doubting her good intentions toward the highest form of animal in this regard?

If Taste is the sentinel of the stomach and also the purveyor and inspector of nutrition, WHAT SENSE is there in ascribing to it the lowest place in the list of the senses?

If we enjoy eating, and are eating, partly, for the pleasure of it, WHAT SENSE is there in throwing away a morsel until the taste has been extracted?

If "dirt" is "matter out of place," which is the accepted definition, WHAT SENSE is there in calling unnutritious food by any other name?

If taste is the evidence of nutrition, and ceases to act upon dirt, WHAT SENSE is there in hurrying food past the sentry-box of Taste without giving the inspector time to select the nutrition and reject the dirt?

If the last flash of taste in dealing with a morsel of food is the best of all,

WHAT SENSE in believing that Nature did not furnish that allurement for the wise purpose of inducing mastication to the end of taste?

If saliva is the medium of Taste, without which there is no expression of taste, WHAT SENSE is there in thinking that it is nothing but a lubricant, to enable food to be easily swallowed?

WHAT SENSE is there in slighting nutrition in the beginning when we know that the derangement of the process will continue throughout all the involuntary stages within the digestive organs, inviting disease and causing suffering?

THERE IS SENSE in carefully attending to the voluntary preparation of the food for the stomach, so that the involuntary functions of digestion and of assimilation may be performed with natural ease and freedom, thereby defying and preventing disease!

If we can save two-thirds of present

consumption and yet furnish all that is necessary for perfect nutrition, WHAT SENSE is there in wearing out our Mind-Power Plant with a glut of surplus?

Unless a person has a pressing engagement with his own funeral, WHAT SENSE is there in hurrying with his meals?

If we can devote ten thousand actions of the jaw, daily, to senseless or vicious gossip, WHAT SENSE is there in denying adequate jaw service to the most important function of living?

WHAT SENSE is there in a rich person glutting his Mind-Power Plant with more food-fuel than it needs, just because he happens to have an abundance to glut with, or glut on?

WHAT SENSE is there in calling any glutton "a gentleman"?

WHAT SENSE is there in calling any glutton "a lady"?

If what Taste rejects, after having selected nutriment out of a morsel of

food is *dirt*, WHAT SENSE is there in allowing it to contaminate and burden the delicate organs of digestion?

An indigestible morsel of food is like a runaway team in a crowded street. WHAT SENSE is there, then, in demoralising things in the thoroughfare of our life organism by admitting unruly substance?

An indigestible morsel of food in the stomach, and all the way through the intestines, is like a "bull in a china shop." WHAT SENSE is there, then, in smashing the delicate utensils in the laboratory of our Mind-Power Plant by rushing "bulls" past Sentinel Taste?

A SCIENTIFIC POINT

Physiological Chemistry declares that an important function of saliva is turning the starch of foods into dextrose — sugar — which is one of the high forms of nutrition.

An eminent physiological chemist, who is a friend of the author, and who has been experimenting with the suggestions offered by the discovery of new uses for Taste in securing perfect economic nutrition, says that the inexpressibly sweet flavour which comes with the last expression of Taste in connection with a morsel of food, especially dry breads, which are largely starch, is evidence of perfect conversion of the starch to sugar by the action of the saliva.

The sweet taste spoken of begins to be apparent in dry French bread after about twenty movements of the mouth, and increases until the whole morsel is dissolved and disappears into the stomach, leaving behind it a most delicious after-flavour. According to the quantity in the mouthful this process will take from fifty to one hundred movements of the mouth and require from half a minute to one minute.

In this connection remember, please,

that if you bolt a whole slice, or a whole loaf of bread in the meantime, as soon as it is wet enough to swallow, you will get little, if any, more nutriment out of it, and none of the exquisite taste that Nature's way offers as an allurement for obeying her beneficent demands. The way of Nature is the epicurean way; the other way is nothing less than piggish gluttony.

Even if time for eating is limited, nothing is gained by bolting food. Thirty mouthfuls of bread thoroughly dissolved in the mouth will supply nutriment for a strong man for twenty-four hours, and the eating of it in the way recommended will give pleasure unknown in hurry.

My physiological chemist friend assures me that I am right in asserting that man should *not drink anything* but pure water, and *that* for the purpose of quenching thirst. If anything is good enough to drink at all it is too good to waste on an unwilling stomach when

grateful and hungry taste-buds are eager for it.

Don't drink soup! Don't drink milk! Don't drink beer! Don't drink wine! Don't drink syruped sodas for the taste of the syrups! *Sip everything that has taste* so that Taste can inspect it and get the good out of it for you!

TASTE'S APPEAL

Water has no taste, therefore, Taste does not call it to a halt, but says, "Go right on and do your work, there is nothing in you that I can improve; thank you for giving me a freshening up in passing. If people only knew what you and I know they would be wiser, would n't they? They would learn a thing or two about keeping their Mind-Power Plant in fine order and get rid of all their physical ailments, and be strong and happy, and live to be a hundred and fifty years of age with their faculties unimpaired. I say! you are on

the outside and can give people a hint; why don't you tell them what I am here for! They set me down for a 'capper,' like one of those fellows that stand outside of cheap restaurants and invite passers to come in and eat. They don't know I am an expert in nutriment and can protect them from any harm in eating. I offer them also a first-class *bonbon* taste, at the finish of my work to induce them to stay by and help me to do proper work, but they are all in such a blamed hurry that they never wait for the *bonbon*, and the result is that loads of dirt and indigestible stuff get by me and make endless mischief in the machine. I hear about it often enough you may be sure. All the sewer gas the indigestion produces comes back this way, spoils my comfort, and dulls my strength. You see, you can have a chance, perhaps, to learn for yourself and tell the people what I can do for them. I 'm lodged in here in the dark where they can't see me and I have no means of informing them.

"I wonder why it is that Mother Nature makes such a mystery of her blessings. She never advertises and never exhibits her best things plainly. All her precious metals are hidden away in narrow seams in the ground; her pearls are guarded by close-mouthed oysters at the bottom of the ocean; electricity is as slippery as an eel and absolutely invisible; in fact, Nature is the most retiring, in her habits, of all the expressions of Deity; and, consistent with herself, she has put me in here, in the dark and speechless, provided with powers of selection and discrimination, which, if understood and made thorough use of, will do for man all that he can desire.

"The funny part of it is that the animals, other than man, use me instinctively and live their appointed time; while man, in his usual big-headed way, centuries and centuries ago, gave me the lowest place among the Senses, classed my chief agent and assistant, Saliva, as

merely a 'pusher' of food into the stomach, and ever since he has been in too much of a hurry to live *quick* to take the time to live *long;* and that's what's the matter with the world."[1]

[1] Thus ended the first edition; but in the revision its position has been changed.

IMPORTANT CONFIRMATION

COMMANDANTE CESARE AGNELLI

Commandante Cesare Agnelli, of His Italian Majesty's battle-ship, "Garibaldi," has been an earnest colleague of the authors in the Nutrition Study since the summer of 1900. Like the authors, he received in the course of experimentation such personal benefits that the continued observations have been a source of great pleasure ever since. I take from a letter, dated Taranto, Italy, some excerpts that are good evidence of the caprice of appetite under different climatic conditions together with some irrelevant matter, quoted for its good reading: —

"What a good, long, friendly letter! If it was your intention to spoil me, it certainly proved a success; and I feel so much obliged and thank you so

much for the interesting description of all you saw and did during your absence from Venice this summer.

"You are too good in remembering the few words of encouragement I said to you when you first spoke to me about your experiments. The fact is that I have always regretted that my assistance in the experiments could not be of greater service; and, really, of us two I am the indebted for gratitude for the great service your discovery has done to me since the lucky day I had the pleasure of your acquaintance.

"My bad luck would not have it to allow my ship to go to England for the Coronation, though at first she was selected to be one of the three. Only two days ago I met one of our officers who was on the 'Carlo Alberto,' and he confirmed all that you wrote and all that has been printed about the magnificence of the naval review at Spithead.

"I wish now that I were with you, to be able to talk about what happened to

me during this last cruise of ours, in relation to observations of nutrition. I can only report facts and feelings, and you may be able to connect them and assign the causes. You know I do not usually drink wine, only water; well, on the coast of Africa I had such a distaste for the latter that I was compelled to take beer to quench thirst, nor could I even endure mineral waters. My desire for food was quite changed, my physiological craving dictating to me quite plainly, as in a doctor's prescription, what I wanted. Even the best fish in the Mediterranean did not satisfy me. To-day it was eggs and to-morrow it was cocoa, but never meat that I felt the wish for. But what is a new caprice of desire relates to my smoking. I could not smoke a single pipe nor a cigar; only could I tolerate cigarettes, and those quite without pleasure. At Smyrna I almost fed on ices and lemonades, but always and ever I could *eat* (not drink) my cup of cocoa in the morning. The heat on

the coast of Africa at Tripoli and Ben Ghari was intense, 108° and 110° Fahrenheit, with perspiration in proportion.

"So it seems to me that appetite is changed to suit latitude or climatic conditions, and all that we call our exotic pleasures of appetite, such as smoking, etc., are dependent on our nutrition. Anyhow, even in the hottest days, my strength never gave way, and I never felt that lassitude and general unfitness for work that was my companion in past years in hot climates, as in the West Indies in '86 and '87.

"I never miss an opportunity to spread the virtues of mastication, but most people are too indifferent to apply the practice long enough to get the habit established as we have acquired it.

"The first part of our cruise brought a great deal of suffering to those who are not assisted by a proper discrimination in nutrition. There was a scant supply of good food, and the bad food was very bad. I managed to get the

best out of it with the assistance of my curious appetite, and did not suffer inconvenience as did the others. But we were largely rewarded in Turkish Asia, — a really blessed part of the world, — and especially at Smyrna. My day began in the bazaar and ended there, my eyes enjoying Turkish and Persian art in all their manifestations, from the rich Bokhara and Khorassan carpets to the Damaseo inlaid works, Rhodes embroideries, and so on. One sees that art has come from the East, and in every branch of it the influence of the meridian is always discovered and perceived. My great regret was not to be able to take it all away with me to Venice and divide it with my esteemed friends there for our mutual enjoyment. Curiously enough, at Smyrna I found a good bit of Italian pottery that I secured for almost nothing. It would have been a great thing if you could have been there to pass those ten days in Smyrna with me.

"I gave an order for some carpets to be made on measure, but it will take months to have them ready. Many people do not appreciate the old carpets, but to my taste modern ones do not have the velvety look or the *souplesse* and the softness of the old ones.

"I am sorry circumstances prevented my filling your commission. Had Dr. Van Someren been there, he is so fond of old things, I am sure he would have ruined himself.

"It seems as if we would remain here the whole of this month, and then I hope for a fortnight's leave to go to Venice; and I look forward to the pleasure of a long chat together.

(*Signed*) "C. AGNELLI."

CLARENCE F. LOW, ESQUIRE

THE VEGETARIAN TENDENCY CONFIRMED

The relator of the following experience was conversant with the early researches of the elder author and gave

mastication a trial for a time. He gave it too painful attention, as is apt to be the case with beginners, and the strain made the practice tedious and undoubtedly inhibited the secretion of the digestive juices, the same as worry and other distractions are known to do. After a very short trial Mr. Low declared that he could not get enough nourishment within reasonable time and came to the conclusion that much chewing did not agree with him although it might with others. With the issue of the reports of the Cambridge and Yale tests, however, the suggestion was given another trial, with the result, up to date, as reported below:

"I thank you very much for the copy of Dr. Kellogg's book, the 'Living Temple,' just received. I have not had time to read it, but in looking over the chapter headings and knowing Dr. Kellogg's worth as an authority on matters of foods and diet I know that there is much of value for me in the book. I am much

interested in that 'Chewing Song' that has been dedicated to you by Dr. Kellogg and think the idea an excellent one.

"I have for some time been chewing *à la Fletcher* and find it of great advantage. It is getting to be automatic and is losing its irksomeness. Indeed it already seems natural and produces some results not 'set down in the book.' For instance, I have no desire for meats and foods which do not lend themselves to the Fletcher method. This in itself is a great advantage.

"By the way, I have not eaten meat since the 20th of last October (nearly a year), and I find I have gained greatly. I only desire two meals a day except when the exigencies of travel make a *light* breakfast agreeable and desirable. By these means I have gained nerve force wonderfully and my muscular strength and endurance have increased so that I walk long distances and climb mountains easily. In fact, I do now with pleasure and avidity what I could not

formerly do at all. They are the sort of things that are supposed to require a 'strong meat diet' but which under such a diet were impossible to me. Mastication and thorough mouth-treatment seem to allow the appetite to prescribe what my body needs and this is the essence and substance of your discovery. It pleases me very much that Drs. Kellogg and Dewey have confirmed your researches and find that your claims are not over-drawn. They have such splendid opportunities to test things dietetic and are such open-minded, natural-born altruists that their confirmation counts for even more than that of the very conservative men in Science who stand for scientific authority and who want a thing thrice proven before they give it endorsement.

"I think my experience will be especially comforting to you because of my repeated trials and lapses. I can see now how important it is for one to practise careful mouth-treatment until

the habit is acquired and the performance becomes automatic. There is no doubt in my mind but what there is a natural protection given us by nature which has been lost by perversion. I feel confident that you will get ultimate credit for the re-establishment of a rational habit of eating which, under normal conditions of food supply, is a protector against premature swallowing of food.

"G—— has seen the result in me and he is dropping meat to a great extent and his breakfasts have dwindled to a mere fraction of what they formerly were. The same is true of M——."

A FIVE YEARS' LAY EXPERIENCE

The good fortune of yesterday, July 29, 1903, brought a telephone message from an old and very dear friend who has been impressed with the virtues of buccal digestion for the past

five years. Five years ago my friend was a sick man, past fifty years of age. During his youth and early manhood he had been an optimist among optimists, leading a congenial life among agreeable friends, with the best the world had to offer in the way of recreation and fare. His great misfortune at the time was indigestion and the troubles that accompany indigestion. If he drank a small cup of coffee at night he could not sleep, and he was subject to the constant uncertainty of health and frequent recurrence of acute diseases that are common to the victims of luxury.

The very ill-health emergency and dilemma of my friend led him to catch at any stray straw of hope or comfort. When we met, some months after the beginning of my experiments, he was compelled to note a great difference in my appearance; the portly and robust but heavy, short-winded and unwieldy friend of bygone years in sumptuous

New Orleans had become "spare" and active, and told of improvement in health-conditions that seemed almost miraculous. The still-suffering friend was interested to the point of listening and trying the remedy. Half as a joke and half in earnest the regimen recommended by me was adopted and carried forward far enough to secure some noticeable good results. Following up these favourable results with continuance of the regimen brought progressive improvement of health and increasing conviction of the merits of thorough buccal digestion.

The evidence of physical improvement resulting from five years' attention to buccal thoroughness in the ordinary course of an adventurous life is here given briefly from memory fresh from the telling:

"You remember the state of health I was in when we met here in the Waldorf five years ago. The benefit of the recovery that I had secured at

Sierra Blanca had been gradually lost, and I was pretty well down to my last legs again. If I had n't been struck by the marvellous alteration in your appearance from what it was when I had seen you last, I should have been terribly bored by your relation of your experience, for I was sick to death of mention of cures and diet-regimens of all sorts. But you astonished me so by your changed appearance, and I was in such a hopeless condition, that I thought I would give your scheme a trial. Next day, my breakfast, which was also my lunch, for I was feeling too badly to get up earlier, brought me some sweet corn as one of the several items I habitually ordered. In giving this corn thorough chewing before swallowing I noticed that, while the inside of the corn liquefied readily and was quickly swallowed, there remained in my mouth a collection of the hulls, and these invited the bad table-manners of 'spitting out.' I removed this collection of refuse as deli-

cately as possible, and, on examination, found that it consisted of hard substance that I had never noticed before in connection with cooked sweet corn. This set me to thinking. What had I not been putting into my stomach all these years in my ignorance of the constituents of this one kind of common food, and what not in other foods that I had not yet observed?

"In continuing the observation further, I discovered that many of the foods that I was accustomed to take contained hard, insoluble ingredients or cottony fibre that got more and more cottony and refractory with mastication. In trying coffee, my favourite beverage, as you told me I might do if I handled it rightly in the mouth, I tasted it until it was absorbed or swallowed involuntarily just as you told me the expert wine-tasters and tea-tasters do. I sipped and enjoyed my small cup of coffee as I had never done before in my life, and knew afterwards that it had not

hurt me as usual, as no immediate protest came from the stomach, which formerly had been the case. I slept the 'sleep of the just' that night, and awoke in fine form next morning. From that day to this I have not been troubled with indigestion, and during these five years I have not been sick a day or an hour or a moment, and have slept like a babe. I have n't kept my weight quite down where it ought to be for best comfort, but I have supported the burden with my general good health and digestion. My temptations to lapse have been enormous, for I have had the good fare of two continents thrown at me by most enticing invitation, and I have run the gantlet of extraordinary *menus* without phasing, with the results I have recounted.

"Do you remember the day of the public funeral of General Grant, when his tomb on the Riverside Drive — Morningside Heights — was dedicated? You remember that we had been invited

to Mr. H——'s to witness the parade and take lunch? How we were caught on the wrong side of the procession on Fifth Avenue and were hurrying to get ahead of the column and across to the other side of the Avenue? Well! do you remember how we puffed and blowed when we had run a couple of blocks and how we were red in the face and nearly knocked up? We were both fat then and short-winded, and we never would have been able to get to our destination if I had not hypnotised a policeman and persuaded him to lead us across the Avenue like a pair of emergency hospital cases or disorderly arrests.

"Since then you have had your experience of recovery as the result of your deliberate experiment made for a purpose, and I have had mine as the result of noting the improvement in you, and for all of which I owe you my life, whatever that may be worth.

"At the time of the great Naval Review, or something of the sort — I have forgotten what — a party of us went to the pier of the Southern Pacific Company to see the show. There were Ned H——, and Captain H——, and two other men, and myself, with four ladies. On coming up town we were booked for another engagement, the time for which had not yet arrived. We were in the vicinity of the Hoffman House and drifted in there and into the ball-room. The floor was most tempting and the orchestrion willing. It was too suggestive a combination for the ladies, who were young and fine dancers, and they exclaimed with one voice, 'Oh, how lovely! I wish we might dance.' It proved that I was the only dancing-man among the men. I had been a dancer in my younger days, but I had let up on it since I had become stout. However, by way of a joke and to please the young ladies, I offered to be a partner. My offer was accepted, also as a joke,

but the sequel was a surprise. We set the orchestrion going on a Waldteufel waltz, and I grabbed one of the young ladies for a round. Really, I was amazed. I danced as easily as I did when a youngster, and round and round we went. Finally, my partner begged for a rest, so I waltzed her to a seat, and, excited with the revelation of an endurance I did not know I possessed, I grabbed the next lady from her seat and repeated the tiring-out process as easily as in the first attempt. There were yet two ladies fresh and eager to assist in 'doing Uncle Nat up,' and I repeated the performance with them, also, dancing the last to a dead standstill on account of her determined obstinacy. *She* had to complete the 'doing up' of the old man, or Age would win a battle from Youth, which would never do. Well, to make a long story short, and to get to the illustration. I was warm and ruddy, but I was less fatigued than I remember to have been as a

youngster when I had danced for a long time.

"Since then I have not balked at any feat of physical endurance, and I feel as young to-day as my white hair will let me. I have tried to get my friends to chewing their food persistently, and have gained many adherents to your cause, but I have had to stand an immense amount of chaffing meanwhile. I tried to get Mr. H—— to chew his bread and milk, but he always laughed at me, and chaffed me constantly when I was with him about my chewing fad. One man, whom I saw much of, and who needed your advice more than anybody else, got so sick of the subject that when I received a letter from you, telling of some new discovery and some new triumph of the cause of chewing, I would attempt to read it to him; but he would not listen, and persisted in calling it rot, although he knew that I had become a remarkably well man, whereas I was formerly a very

sick man. Both of these scoffers have gone and I am left, as chipper and as fit as a fiddle new-strung for the music of a happy life. If we don't catch up with Luigi Cornaro on our record it will not be for want of good digestion."

This is a little bit of intimacy that the good Baron Randolph Natili will not object to offer in evidence in our cause; for no one living has a heart and a will to do a favour or spread a benefit more than he. Only yesterday he said, in a burst of enthusiasm, "How is it possible for me to dislike any one, feeling the way I do? I have likes immensely stronger than other likes on account of similar or closer sympathies, but it seems to me now that to really dislike any one that the Creator has made, or anything that he has created, would do violence to the Memory of My Mother."

DR. HIGGINS' CASE AND COMMENT

"DEAR MR. FLETCHER:

"You ask me to write you a short account of my experiences with economical nutrition with comments, and a few words about my physical and mental history.

"*Previous History:* — The best period of health that I can remember in my life was that between seventeen and twenty-one, during the time I was preparing for the medical profession. I had a small breakfast at about 7.30 A.M. and then went up to London to St. George's Hospital, which was about fourteen miles from my home. My parents gave me 2/6 for my midday meal but I fortunately economised and only spent 6*d*–10*d* of it on food. After finishing my work I usually arrived home at 5.30 and had a 'meat tea'; this allowed me to devote six hours to reading. During the whole of this

period I was in excellent mental and physical condition. I was made house surgeon at twenty-one, obtained my degree in under four years besides obtaining several valuable prizes.

"After this I lived in the Hospital where three meat meals were provided. These I conscientiously ate 'to keep up my strength' during the performance of my exhausting duties. I consider that this period was the commencement of my degeneration. I put on twenty-four pounds in weight and lost much of my mental energy.

"To condense, as much as possible: my strong hereditary tendency to gout with the excessive meat eating, the hurried eating during some three and one-half years at St. George's Hospital, London, and at Addenbrooke's Hospital, Cambridge, resulted in constant suffering from headache, lumbago, rheumatic pains, and all those distressing symptoms known under the generic name of 'goutiness.' After

seven or eight years I weighed two hundred and twenty-four pounds and complained of increasing symptoms of gout. I then became a patient of Dr. H——, of London, whose system requires one to abstain from meat, fish, poultry, beans, tea, coffee, in other words, from foods containing uric acid or its equivalent. For about five years, till the end of 1901, when I first met you, I fluctuated considerably in health, on the whole I am bound to say, in a steadily downward direction, till I was overloaded with the excessive weight of two hundred and eighty-two pounds.

"*History of Period of Regeneration:* — I commenced under your advice, masticating my food thoroughly at the end of December, 1901. After practising this method till the present date September, 1903, I have lost one hundred and four pounds in weight and consider that I have gained very considerably in mental and physical fitness. I prefer to divide this period into two parts:

(*a*) *The first eight months.* During this time I followed my appetite, but with a strong mental bias in favour of keeping up as nearly as possible to the daily 'physiological ration' of nitrogenous food. I lost notwithstanding some sixty-four pounds in weight in spite of having an inordinate appetite for butter, and generally taking two pints of milk daily. During this period I undertook some very severe work in the Laboratory of Physiological Chemistry, with the object of trying to devise some method of measuring the extent of a person's departure from their optimum health. This led almost unconsciously to a stronger mental bias in favour of prescribing the amount of food one should eat, and to a certain number of experiments in feeding. Towards the end of this period I got rather exhausted in consequence of my severe work and complained of occasional headaches. Following the suggestions of some friends I added fifty grams of casein to

my daily diet for two or three weeks. This was followed by a return of rheumatism and considerable sickness and inability to work. (*b*) *The subsequent six months.* I resolved to devote this period to a careful study of my desires for food — to take no notes — to make no experiments — in short, to allow my body to run itself, and to try to make my brain interpret the wants of the body. I had moved for the purpose of this experiment into a small house, with a boy and a woman who came daily to clean the house — (I mention these details because practically one finds that a woman has usually such quick sympathy about matters concerning food, that their agitation and fears are enough in themselves to cause you to modify your diet). I only kept bread, butter, and milk in the house, all other foods I was obliged to send for, and if I required a dish to be cooked, I first learned how to do it myself and then taught the boy. I had no fixed times for meals, and did

not have a table laid, my food always being brought up on a tray; usually I did not interrupt the work I was doing. I deliberately adopted all these precautions because I had become aware by experience of the extraordinary influence suggestion, and other mind influences, such as habit, had in one's selection of food and the amount one ate. During the first two months in conscientiously eating what I wished, as much of it as I wanted and when my appetite demanded food, my desires were very irregular, ranging over meats and fish, (occasionally) chocolate, sweets, cream, cheese, butter, milk, bread, potatoes, oranges, bananas, sugar, etc., but during the final period my desires were much more simple and regular, confining themselves to bread, Gruyère cheese, butter, cream, bananas, potatoes, occasionally milk. During and subsequent to this period I have become convinced that provided you eat your food slowly and follow your appetite, without guid-

ance from any other knowledge whatever, one gets marked preferences for simple foods with increasing health and happiness, the contentment that comes from the inestimably valuable possession of simple desires.

"*Comments on the System:* — The great attraction the system has for me is its frank admission that: (1) One knows practically nothing of those chemical processes that occur during digestion. (2) The guidance for the conduct of life afforded by such vague phrases as 'the collective wisdom of mankind' leave one on the most superficial examination in a state of great doubt, to say the least of it. (3) The guidance afforded by the dogmas of science are open to the most disquieting criticism. (*a*) In the prescription of method without a knowledge of the mysteries of digestion. (*b*) In those observations on insufficient standards of mental and physical optimum efficiency, and of short periods of observa-

tion based solely on nitrogenous equilibrium and output of work that you have already shown to be fallacious and variable. (*c*) In short, that one can say that none of the physiological dogmas based on chemistry are not open to criticism.

" If this is admitted, and the choice of the quantity and quality of food thrown on taste and appetite, we are at once provided with a natural means of ascertaining the body's actual wants from day to day. The phenomena that have resulted from the more thorough insalivation and mastication of food can only be described as remarkable and of the highest importance for the progress of that most important of all sciences, the right conduct of life. The great advantage of finely dividing the food in the mouth so as to present as large a surface as possible for the action of the intestinal juices, is obvious when one reflects on the rapidity with which bacteria can and do act on pieces having

a smaller area in consequence of their larger bulk. When one reflects that Dr. Mott attributes the main cause of insanity to the absorption by the body of the cleavage products produced by microbes in the intestines, and the increasing recognition of such poisons in the causation of chronic disease and disturbances of health, this factor alone would afford an explanation of some of the phenomena induced by the practice of economical nutrition.

"A method having the results that this has it need scarcely be said is revolutionary; all one's preconceived notions of the conduct of life are found to be based on grounds open to grave criticism and it throws a great responsibility on all those concerned in its study to endeavour by all the means in their power to present a more completely demonstrated and unanswerable case to those who are responsible for the world's guidance in

these matters, with as little delay as possible,

"Yours faithfully,

"HUBERT HIGGINS, M. A. CANTAB.
M.R.C.S., L.R.C.P.

"Late House Surgeon to St. George's Hospital, London, and the Addenbrooke's Hospital, Cambridge. Demonstrator of Anatomy to the University of Cambridge and Assistant Surgeon to Addenbrooke's Hospital."

QUARANTINE

THE NECESSITY OF PROTECTION

NOTE: A paper, read before members of the Unity League and other guests of Mr. and Mrs. William S. Harbert, at Tre-Brah, Williams Bay, Geneva Lake, Wisconsin, in August, 1898.

It is pertinent to the subject of this book, but was written when the investigations described herein were just beginning.

Progress of Civilisation is accelerated by constantly extending systems of individual, moral, social and sanitary quarantine.

It is not what man adds, for he can *add* nothing, but what he prevents, that aids growth.

Man creates nothing, but he assists Creation by removing deterrents to growth. Growth is spontaneous, constant and ever stronger if obstructions are removed. Creation does *all the growing*, but *cultivates* nothing; the seed falling upon good soil or upon

stony waste without other direction than that given by the caprice of the winds.

On the other hand, Man is the *only cultivator* in Nature, and at the same time he can add nothing to growth — to Creation.

Visible, or conscious, growth consists of cell building or thought producing. Man never has created a cell, neither has he been able to determine the origin of a thought; yet, he is a necessary factor in evolution and a prime factor in cultivation, which is civilisation.

Man removes deterrents to growth. Nature "does the rest."

Thought and cell creation are spontaneous and are never-ceasing if all obstructions are removed from about them. Civilised man places a quarantine against the enemies of growth, of progress, and of harmony, and thereby promotes civilisation.

Man is, therefore, the Chief Assistant to Creation, the Architect of Civilisation

and a *Full Partner* with Nature in Evolution.

This distinction, adequately appreciated, lifts Man above the animal plane and gives him a place among the gods; his material form, composed of muscle, hands, powers of locomotion and speech, being but tools with which to harness and coöperate with the other forces in Nature, under the direction of the god-like attribute of the Mind, in the removal of deterrents to free growth, and the cultivation of that Harmony which is the symbol of God.

* * *

Having assumed as an hypothesis that Man is Full Partner with Nature in Evolution; and having discovered his proper function in the "Division of Labour" in Nature, it is time for each of us to analyse the conditions which environ us as Man units, select those which seem to be useful to our scheme of construction and harmony, declare all deterrents to the growth of our selection to

be weeds, and then proceed to remove them without delay, first, by pulling those which now exist, and following that by establishing strict quarantine against them.

* * *

I can teach only that which I have learned, and pronounce good only that which has led to happiness. I will therefore note the progress of my own discoveries and describe those which have brought increasing happiness, in order that they may serve as beacons and monuments to such as may seek the same goal along the same lines of inquiry.

The first forty-five years of my present life were spent in seeking happiness by means of personal accumulation. Money, friends, distinction, acquaintance with art in all its various expressions, lands, luxurious homes in favoured localities, pictures, rare porcelains, lacquers and other possessions, isolated for my own use, and for the enjoyment of chosen

friends, seemed to be the necessary desiderata of happiness.

In turn, all of these came to me in sufficient abundance to give, at least, a taste of their quality and their efficacy in promoting happiness; but, in the midst of them were always obstructions to unhampered enjoyment, increasing with possession and accumulation of the coveted means, and constantly mocking, as with a mirage, the ultimate ideal desired.

During these forty-five years of quest of happiness there were constantly appearing above the horizon of my search flashes of hope, leading in new directions, which proved in turn to be but will o' the wisps, until the night — the morning — of my awakening, as related in my book "Menticulture."

It was then, for the first time, I heard that it was possible to *get rid* of anger and worry, the *bêtes noires* of my existence, which were, as I then believed and as I now know, the dreaded barriers

between me and perfect happiness; not because the mere removal of these particular deterrents to happiness will accomplish happiness, but because the certain result of the removal of any principal mental obstructions leads to the disappearance of contingent errors, and permits freedom of growth of the elements of true happiness.

* * *

It is proper to state here the definition of happiness which is the result of my progressive quest. There is only one quality of true happiness, as there can only be one kind of quarantine, and the former is dependent on the latter. If both are not *perfect*, both fail. True happiness is *the evidence and fruit of conscious usefulness, and quarantine against obstructions to normal altruistic energy is the best means of attaining happiness.*

In view of the establishment of the status of the Man unit in the Nature-Man partnership, the above defi-

nition and assertion may be extended to declare that there can be no genuine happiness short of *usefulness in assisting other units to be strong and useful in the partnership of which each is a member.*

True happiness cannot exist if there is present an element of indifference.

Next to destructive aggression, indifference, which leads to neglect and waste, is the worst fault that a member of the Nature-Man partnership can be guilty of. Neglect *nothing* that will aid growth in any useful form, and happiness will surely follow, for Nature and the God of Nature will "do the rest."

* * *

In qualifying for the Nature-Man partnership, it is of first importance that our personal equipment should be understood and cared for so as to give us the greatest strength. The body may appropriately be likened to an electric power plant — a Mind-Power Plant; the body being the engine, the

stomach the furnace, the arteries and veins the boiler tubes, the blood in circulation the steam, the brain the dynamo, and the mind electricity.

Mind is the all-important factor of our equipment, for it is the commander that will lead and direct better and wiser than we can now imagine if we allow it a chance to act with freedom.

To secure this freedom we must know its habitat, its requirements, its nourishment, and learn to allow it to recharge itself sufficiently and to concentrate itself on its chosen usefulness without imposing upon it also the drudgery of useless work. This must be done with the same idea of economy that a *chef* is relieved of the drudgery of washing dishes and emptying slops.

According to Dr. Edward Hooker Dewey, a pharmacist, army surgeon and tireless investigator of forty-five years' experience, whose revelations have been before the medical profession of the world for many years without a single

challenge, the brain is a dynamo which accumulates energy during sleep, and uses it during the waking hours of its possessor.

The brain manages everything for man that he accomplishes. It brings messages from the Creator, which are sometimes called intuition, sometimes inspiration, and by various other names. Emerson calls these messages the "Over-Soul." My own appreciation of the attribute that distinguishes the Spiritual Man from the animal man is better satisfied by the name "Spiritual Cerebration," which I have defined in my book "Happiness" as: "Intelligence not derived from experience, principally obtained during sleep, and, seemingly supernaturally clear to consciousness on awaking in the natural manner."

The brain also directs all action, and, with encouragement, will take up the messages from the Creator and analyse, arrange, and develop them into useful

accomplishments, and then file them away in the archives of the memory as additions to the equipment which is necessary to greatness in the pursuit of usefulness.

Dr. Dewey gives the bill of fare of the brain in seeking its own nourishment, and also describes the work it performs in transforming the fuel we supply it with into the tissues on which it feeds.

This is undoubtedly a very important discovery and locates the source of strength and teaches how to conserve it.

I will not give the technical bill of fare of the brain, for you would not remember it better than I do, but it is all composed of tissues of the body, fat predominating to the quantity of ninety-seven per cent, but the important announcement is that neither the brain itself nor any of the nervous centres diminish during consumption of tissue, neither do they lose any of their power, even in cases of what is called starva-

tion, up to the point of death, when all of the fatty and muscular tissues of the body are wasted away, leaving the brain and nerve centres to flicker and go out, as a candle does, brighter than usual with the parting flash of their brilliancy.

Dr. Dewey gives President Garfield as an illustrious example of proof of the accuracy of his deduction. The martyr President lived eighty days without the addition of an ounce of nutriment to his life, carried the usual clearness of mind to the last moment, and passed on only when the last muscular tissue had been consumed by the brain.

Dr. Dewey's assertion that starvation, so-called, is never a cause of disease, and never dangerous to life and health until there is no more tissue left on which to feed the brain and other nerve centres, was published some years ago and I have the authority of the Doctor himself that his contention has not been once disputed by the medical profession. Three eminent English physicians, Drs. A. M.

Haig, George S. Keith and A. Rabigliati, and many American physicians, have experimented with what is called starvation for the cure of chronic diseases which have their origin in excess of inharmonious deposits caused by overeating or careless eating. The results in all instances recorded have been successful in modifying or curing the disease.

When patients have understood that they were suffering no injury from not taking food they have ceased to have hunger cravings. These hunger cravings usually come from fear or from disorder caused by fermenting food in an overloaded stomach.

We can, then, on undisputed and practical authority, treat craving for food or drink as a disease and therefore not rational, and starvation as merely drawing upon the stored fuel — fatty tissue — by the dynamo of the brain, restorable at will at any time before complete exhaustion, without injury —

with benefit, in fact — to the machinery of the body.

The brain must first turn food into tissue, and then derive its own nourishment from the tissue. If the right quantity of nourishment can be introduced into the stomach, if the quality is of the right kind, and if it is fed into the furnace of the stomach with relatively the same wisdom that a competent fireman uses in feeding his furnace, the brain is required to use the least possible effort in this direction, and has its stored energy available for directing other useful action and serving the partnership which employs it with an efficiency, the possibility of which may be well illustrated by the herculean accomplishments of the battleship "Oregon" in the late war in steaming thirteen thousand miles and engaging in a great battle without a stop or an accident, and without "starting" a rivet.

I will not tell you much of what Dr. Dewey has revealed, because I want you

to read all he has written,[1] as well as the books of the English physicians mentioned, but I must say this much: Very little digestion goes on during sleep, and, whether it does or not the brain has from sixty to one hundred days' nourishment stored up within each of us, and can feed on that without inconvenience to us, except in the form of what is called habit craving or imaginary hunger, for the whole of that time. A person who has been without food for an unusual time, if he does not gorge his stomach when the first opportunity of breaking the fast arrives, is not only better for the rest the brain has had, but the health does not suffer in any way.

It is, then, no serious deprivation to ask a person to go without what we call breakfast — the getting-up or habit-craving — and give the brain a chance to

[1] Dr. Dewey is the author of numerous books: notably, the "No-Breakfast Plan" which he supplies to inquirers direct from his home address, Meadville, Pa.

clean up the remnants of the last day's supply of food fuel, and express new desires in an *earnest* appetite. There is available, on waking from sleep, a fresh charged brain ready to serve its proprietor with great efficiency. Incidentally it has to do some "chores," rake out the clinkers, dispose of the ashes, relieve the grate bars, attend to any little repairs, brush out the chimney and generally get ready for the work of another day.

The hunger of the morning is necessarily but a *habit-hunger*. The best evidence of this is that, when busily employed, we forget it without trouble; and also is that European peoples, where the disease dyspepsia is not known in the list of physical derangements, perform the chief physical or mental effort of the day before their breakfast, the morning coffee scarcely meaning anything in the way of what we call a meal.

Dr. Dewey's firm assertion is that

when the stomach has had a chance to "clean up" and is ready for more fuel, it will make it known in healthy manner by a healthy appetite, and that it is rarely normal before noon; and not really before one has done what might be called a "day's work."

I can assert boldly, as the result of experience, that the time to get work out of the brain is between the morning awakening and the first meal, and it is the same relative to endurance draughts on the physical strength.

Then, in the heat or the glare of the day, having accomplished something useful and disposed of pressing duties, so as not to feel the irritation of hurry, the first meal of the day can be taken with restful ease and it will be found that the supply demanded by the appetite will not be so great as that demanded by the unhealthful, habit-inflamed early morning call.

It may not seem so, but this digression from psychics to physics is very

germane to my subject and to my own experience.

Without knowing that Dr. Dewey and the other eminent physicians who endorse his theories were living in the world, I, in the summer of 1894, blundered into a personal experience of diet that produced wonderful results which I now recall with all the vividness of the high lights of extreme pleasure met in foreign travel.

I was in a Southern city for two months during an unusually hot summer, watching some developments that could not be hurried, and the fruition of which was important to my interests. I had nothing to do in connection with this business but to "watch and wait."

I had some writing to do, however, in the mean time, which could not be well or comfortably done in the heat of the day, hence I arose at daylight and began to write. At that time of the morning nothing to eat was to be had, which compelled me to start work

without it. My subject was an absorbing one, so that, once under way, I would not be diverted until I had "written myself out;" or in other words, had exhausted the consideration of the morning messages which I now designate "Spiritual Cerebration."

It happened, under these circumstances, that my habit-hunger was not given a hearing and it was nearly noon before I felt the fatigue or even the heat of the burning day, for I worked in my pajamas, and had no time to look at the thermometer, to get an exaggerated suggestion of heat by which to start my blood chasing itself through my veins.

I not only noticed that my mid-day breakfast was a deliciously grateful meal, but that appetite became satisfied far short of the formally customary abnormal early morning gorge, and, what was more remarkable yet, I wanted nothing during the rest of the day, and not even until midnight, except, after vigorous

exercise of some sort, I might desire a little fruit or a bit of bread or cracker; but never a full course dinner.

I wore a belt at my trousers, as was the custom of the place, and in a few days decreased the girth of my corpulency one hole in the belt; and before the summer was over, four holes, with only the most comfortable feeling accompanying the loss of weight.

When my family returned from Europe, I settled back into the American and English habit of a meat breakfast, because I did not want to be "different," and at the same time I half doubted but that my experience was nothing more than an abnormal one, attributable to the inertia of summer heat, literary absorption and lack of physical exercise.

Twice, when I have been left alone since then, away from the restraint of custom, and also in the midst of abundant athletic exercise, I have again cultivated the same habit of missing

breakfast through desire to do early morning work, with the same splendid results.

The last time referred to is the present. My search for a lost waif through the framing of an appeal for him, has given me such absorbing thought that meals have been of no consideration beside it, and in the midst of it I find Dr. Dewey's book, the books of the English physicians indorsing him; and have secured results of health, comfort and strength to myself which I did not know I possessed; to corroborate my accidental experience. As I said before, this seems a very wide digression from the psychical to the physical, but it is really no digression at all, for it is in the service of the brain, and the brain is the direct agent of communication between the Creator and our consciousness, assisting us to work together in the Nature-Man partnership with useful efficiency.

* * *

Now, let me return to the aim of my address, and pursue the thread of my personal experience in search of the fundamental principles of True Living, which, to be proven, must be vouched for and tested by resultant happiness.

When I attacked the tap-roots of trouble and shut the door in the face of anger and worry for ever, I saw among the bones of their decomposition the skeleton of fear. It proved to be their backbone. Fear, then, was the support of all the deterrent passions that beset brightest manhood and womanhood and pursue it to an untimely death.

My book " Happiness " deals with the separation of fear-thought from forethought in order to show that it is possible to smother a vital stimulant of energy with a resemblance of it which is as deadly a poison as carbonic acid gas.

While I have been engaged in pursuing germs of disorder to their beginnings, during the past three or four years, I have uncovered many a beauti-

ful possession that formerly I did not appreciate. *Appreciation of the full value of Appreciation* is one of these discoveries of priceless value and usefulness. I have spoken of this in "Happiness," but not as much as it deserves, for it truly is "The Appreciation of God and of Good that gives birth to Love, and which is the only true and adequate measure of wealth."

Nothing else, however, in the whole quest, has approached the beauty of the love for children that has come to me; the appreciation of them as Messages from the Creator, consigned to the cultivation of the environment society provides for them; as likely as not, any one of them bringing into the world a great intelligence by means of the humblest of parents.

During observation of social questions in Europe, my interest has been drawn constantly to children, as by a powerful magnet, so that when I was called back to this country to attend to

a detail of business and met the adventure which is the cause of my present focalised interest in neglected ones, as expressed in a book to be called, when published, "That Last Waif; or, Social Quarantine,"[1] it was but natural that I should put all the force of my sympathy into the cause of rescue, and that I should find in that service more happiness than in any of the luxurious amusements which had claimed me as a devotee in times gone by.

True *happiness is the result of conscious usefulness.* This I can assert with the confidence of knowledge, not alone from my own experience, but from observation of the great army of kindergartners and child-savers whom I have met in my travels, and especially within the past year; and it is evident that the service attaching to protecting little neglected angels from the evil suggestions and the cruel conditions that may

[1] Published, and proceeds dedicated to the cause of the waifs, October, 1898.

make of them, not men, but beasts, is one of the avenues of usefulness in which these "Angels of the State" meet with the smile of the Master, who was the first Great Kindergartner; whose teachings centred about and dwelt upon the care of children as of first consideration, and who said, "Suffer Little Children to come unto me, and forbid them not, for of such is the Kingdom of Heaven."

Childhood has suffered, manhood has suffered, progress has suffered, for lo! these ages, the cruel assumption that mankind is naturally depraved. In recent years public conscience has been dulled by the anæsthetic that there must be a Have-To-Be-Bad Class in all communities. This has been formulated into the assumption that there is in every group of the Heaven-Sent Angels of Purity, a full ten per cent that must be depraved and unredeemable except by the interposition of special dispensation, which is a direct contradiction of all of the observed Laws of Creation to

which intelligence now subscribes. The motto of this assumption is couched in this vicious legend: " The hopelessly submerged ten per cent stratum of society."

Half an hour's walk from this hospitable mansion, on the shore of the beautiful Geneva Lake, is a place called " Holiday Home." There are now housed and thoughtfully cared for at the " Home " about one hundred of the " Hopelessly Submerged Ten Per Cent Stratum of (Chicago's) Society." During the summer half a thousand of these unfortunates will come for two weeks each. When we touched at the wharf last evening after coming from the concert given in their interest at Mr. Chalner's lakeside home, the waifs met us with a merry class-yell, and greeted us with an intelligence, a buoyancy, and a freedom, born of their holiday, such as was not excelled at any of the other landings where only the children of rich summer residenters were met. We all saw these " waifs " and we marvelled at

them, for, with the grime of the slum washed from their sweet faces, and with clean, though sometimes ragged clothing, they might have figured in the mix-up of "Pinafore," or have starred in a dramatic representation of the "Prince and the Pauper," with all the grace required of princelings.

They have n't been long from God, and they are god-like or not, as we have welcomed and protected them, or rebuffed or neglected them.

Let me assure you in the most practical way that there are two sides to this child question. There is a sentimental side, than which there is no other so worthy; and there is a practical side, than which there is none so profitable.

The best and most profitable service in the whole gamut of useful occupations that I know about is in learning to know children, and in connection with a Quarantine movement which is now started, and which aims to not let one of these wards of the Christ escape

the best care known to Love and the Science of Child-Life.

The crèche and the kindergarten and the manual training schools, and domestic training classes, as well as institutions similar to the "Holiday Home" across the Bay, have demonstrated within the past thirty years that fully ninety-eight per cent of the "Hopelessly Submerged Ten Per Cent" can be rescued after they have been warped by evil surroundings. What will not the same effort effect if directed toward prevention and protection, instead of being squandered in careless and soulless correction?

Christ said: "And a little child shall lead them." Let us awake to the call. It is the way to Heaven; for, "*Of such* is the Kingdom of Heaven."

FIVE YEARS' CONFIRMATORY EVIDENCE

The spirit of the preceding address to the good members of the Unity League organisation on the shores of beautiful Lake Geneva has been the in-

spiring motive of the quest for scientific endorsement of Economic Nutrition for the benefit of the present generation of children, and, incidentally, of their elders. In Economic Nutrition lies protection from sexual morbidity, alcoholic intemperance, bodily disease, savage passions and all the brood of evil contamination and temptation. In Economic Nutrition lie possibilities of physical and mental energy and optimistic happiness such as the world has not been accustomed to in the memory of history. Economic Nutrition is what children want to be taught with their first indelible impressions, and the present great movement of which this little book treats, for which it was first responsible, and for which it is republished in a new and extended edition, is expected to furnish authoritative knowledge relative to the most Economic Nutrition, so that mothers and kindergartners may meet the little waifs from the Creator on the threshold of this present life with words

of wisdom and examples of sanitary perfection, instead of confronting them at once with the poison of ignorance relative to their most important concern, — their own Economic Nutrition.

That the contentions uttered in "That Last Waif; or, Social Quarantine," referred to in the Lake Geneva Address, are reasonable is evidenced by the experience of Dr. and Mrs. Kellogg and their adopted family of twenty-four waifs, the acquaintance of which has since been made.

All of the altruists who have engaged in kindergardenry among the neglected, Dr. Barnardo, Dr. Kellogg and the rest, are full of confidence in the possibility and efficacy of a perfect quarantine as outlined in "That Last Waif." It is an *Epicurean* method of promoting *Menticulture*, killing *Fearthought*, denouncing *Gluttony*, saving that *Last Waif*, and attaining *Happiness* through learning the *A.B.–Z. of Our Own* (*Economic*) *Nutrition.*

GIVE THE BABIES A CHANCE

THE INSPIRING MOTIVE

The enthusiasm excited by a persistent study of the problem of human nutrition is inspired by the need of an intelligent scheme of information and instruction which may be understood by mothers and teachers for the benefit of children. Unlike the young of the lower animals, the babes of mankind have some years of dependent existence during which much unconscious murder is committed, and during which the innocents are more or less poisoned with bad suggestions that weaken them all through life. Colts, calves, pigs, chickens, and the like survive the period of dependence in much greater proportion than do the young of their human masters survive the infantile stage of existence, and this is largely due to the lack of basic or

parent knowledge on the part of mothers relative to their own nutrition, and also a pitiable ignorance concerning the nutrition of their children, the double ignorance constituting a double crime.

Even if careless about ourselves, is it not shameful that we do not concentrate effort in learning the truth about our instinctive means of protection in our own alimentation and in classifying the knowledge in a way that will make it available to children, through their proper guardians, when they arrive in the world "as helpless as a babe"?

If knowledge which seems to be protective had not been evolved out of recent experiment, or if the hope of gaining such knowledge had not been collected from good authority, the appeal might seem futile; but this is not the case. The most intelligent and studious investigators are united in the belief that the problem can be scientifically solved and the confusion of ideas settled by concentrated personal and collective

study of economic nutrition, through observation of the natural requirements, and by trial of the care in taking food which is necessary to secure the most profitable economies.

ILLUSTRATION

Here is an illustration, both of the present need of better knowledge and the hope of its attainment. It is an account of one accidental experience which showed that *excess of food* may be as detrimental to a tiny baby dependant, as it is generally conceded to be harmful to grown persons. The case was described by Dr. Chadwick of Boston to Professor Bowditch, and by the latter repeated to the author. An infant was not progressing as it should and failed to gain normally in weight. It was under the charge of a nurse and was being carefully watched. A certain quantity of milk was prescribed for daily nourishment, at prescribed

times, in a prescribed manner; but the child did not increase in weight and was "doing poorly." For some reason the nurse was changed and instructions were repeated by the old to the new nurse. In the course of a week the little patient showed signs of marked improvement, both in gain of weight and in general condition. In order to record the particulars of the change the physician questioned the nurse and learned that only one half the nourishment originally prescribed had been given, the new nurse having forgotten or misunderstood the orders.

The reason the little fellow had been "doing so poorly" under the original prescription was because he had been using up his puny strength getting rid of the excess of food that had been forced upon his little stomach and intestines. When the excess was stopped, so that his digestive apparatus could occupy itself with his real needs, the babe had a surplus of energy for growth

and thrived as a rightly nourished child should do.

NOTE: In connection with the foregoing, reference is invited to the author's conception of how attention to one's personal economies, beginning with the economy of personal nutrition, is interrelated to general menticulture and the child-saving phase of our personal responsibility in child culture. Even if we are carelessly suicidal ourselves, we owe better care to innocent and dependent children. This will be found in the "Explanation of the A. B. C. Life Series" at the end of the book.

MUNCHING PARTIES AND THE CHEWING FAD

To the scientific person of ultra conservative bent of mind this free and easy screed, offered as the exponent of a great economic idea, will seem offensive, and justly so; but it has been written with a purpose, and happily the purpose is being effected as speedily as the author hoped for when his own discovery relative to the profitableness of an epicurean, economic nutrition became a reality of experience and suggested publication.

To this free presentation, couched in a variety of class expression, is due, in a large measure, the new revival of feeding reform which has spread far over the civilised world, where it was most needed, within the past five years.

Up to five years ago, and to some extent now, the prescription method of recommending diets was and is common. In fact it was universal up to a few years ago; for no one, as far as is known, had yet suggested that normal appetite was the *only* competent prescriber, and that it was the office of the physician to teach his clients and patients how to normalise the appetite.

It required two years of the circulation of the original publications and the constant, persistent, personal assertion of the author before any continued credence of his assertions was secured, with the one exception of a lay friend in New York who happened to be in a state of great need of reform at the time, as related under the heading of "A Five Year's Lay Experience."

It was only about two years ago that the new claims had received sufficient recognition to admit of explaining them to busy men of prominence in the medical profession. After the confirmation

at the laboratories of the University of Cambridge, England, the author had an opportunity to make a statement and give a demonstration to Sir Thomas Barlow, the private physician of King Edward VII. Sir Thomas was most sympathetic with the physiological possibilities, and there has been frequent evidence since to show that he pursued thought of the suggestions, and that his interest has been responsible for the aristocratic lay interest which originated the so-termed "Munching Parties" in London.

The English term "munching," signifying chewing or masticating, is an excellent amendment, which is gladly adopted. "Masticating" is technical and formal. "Chewing" has been disgraced by its application to gum and to tobacco, and the other English expression, "biting," suggests the carnivorous, savage use of the jaws and teeth, while "munching" implies enjoyment, as the munching of delicacies by children.

As reported from London, "Munching Parties" were inaugurated to teach attention, to encourage mouth preparation of food for digestion, and also for the æsthetic purpose of gaining all the gustatory pleasure possible from food while conserving the economies of nutrition. The method employed was most ingenious, and with some modification is approved by the author. When a course was served at "Munching Lunches," the manager of the ceremony employed a stop watch to time the treatment of the first morsel of food taken by each of the guests. Five minutes was prescribed for consideration of the morsel. It was an extravagantly long delay over any one morsel, but it set the pace of deliberation, and time, under the circumstances of a social function, was not a matter of moment.

A five minute, or even a one minute consideration of a morsel of delicious food, tends to give a new appreciation of its taste value and suggests more

careful enjoyment than is usual when nervous conversation is the main business of a meal and food is a mere accompaniment.

Industrious munching performs about one hundred acts of mastication to the minute, and from twelve to fifteen mouthfuls of ordinary food is sufficient to satisfy completely a hearty appetite. Tender or well-prepared or well-cooked food is fully treated by munching for natural swallowing in even much less time than a minute. The necessary time ranges from one-twentieth to one-fifth of a minute, or ordinary food is reduced so as to excite the natural Swallowing Impulse by from five to twenty masticatory acts; and this applies equally to the tasting movements required by sapid liquids. Hard or coarse breads, and even potato, may require more attention and longer time, and deficiency of saliva delays the process; but it is a very refractory food that will require more than half a minute to the ordinary

mouthful. Small sips and small mouthfuls demand less proportionate time, so that the actual time necessary to satisfy a good appetite does not exceed twelve or fifteen or at most twenty minutes when the secretion of saliva is ample, as in the case of *real* hunger; but the enjoyment of taste does not stop short with the actual cessation of the psychological sensation. The memory of taste continues after the actual sensibility has ceased, and one of the most agreeable compensations of a meal is enjoyed in the form of *complete satisfaction* following the act of eating. It is a very different and a very much more agreeable sensation than that attending a distended stomach, and must be felt and understood to be fully appreciated.

"Munching Party Functions," then, reveal more possible pleasure and benefit than the mere tickling of the palate, so-called, and diffuse their benefits to cover the mechanical act and a long-continued feeling of satisfaction that

is more subtly pleasing than the immediate physiological cause of the contentment.

The "Munching Party" scheme of education and enjoyment has been carried to America, and has received the name of the "Chewing Fad." As such it has been cartooned in the newspapers, but in no matter what form the suggestion is spread it can do only good.

Appreciation of the suggestion has been generously expressed in the letters of Dr. Kellogg of the great Battle Creek Sanitarium and by Dr. Dewey, the author of the "No Breakfast Plan," as well as by the author's intimate colleagues, Drs. Van Someren and Higgins, of Venice, Italy.

There are many physicians from whom the author has heard report, and perhaps thousands who have not yet been heard from, who are conveying the slow-eating and appreciative-attention suggestions to their patients; and

as the reform in dietetic *technique* has sprung up since the publication of the booklets of the author — "What Sense? or, Economic Nutrition," and "Nature's Food Filter; or, What and When to Swallow," which were afterwards coupled together under the title of "Glutton or Epicure" — he has good reason to suppose that the spread of the idea originated with the publication of his discovery even where the personal influence had not been given direct.

While visiting recently in Cambridge, Massachusetts, the author met a distinguished professor of Harvard University who had been suffering from nervous prostration. He had spent some time in Europe consulting the most eminent neurologists, but with little or no relief. On his return to the United States he was advised to go to a sanitarium in Bethel, Me., under the direction of Dr. Gehring, where effective cures of cases of nervous prostration

have been performed. The professor was given "Menticulture" and "Glutton or Epicure" to read, and was recommended to practise the advice of the books in connection with his treatment. These two books are an account of the way the author promoted his own salvation from the uncertainty relative to physical health and mental control, and it is by these means that the psychic, mechanical, and chemical necessities of nutrition are satisfied.

The author spent an hour with Dr. Alexander Haig, of London, while undergoing the Cambridge University Examination reported upon by Sir Michael Foster, and exhaustively argued the claims of thorough mouth treatment of nutriment to that distinguished dietetic specialist. The argument met with much incredulity, as has been the case in all first presentations of the idea. Dr. Haig pronounced the appeal to even a normalised appetite dangerous, and clung to the prescription

theory of regulating food. He seems, however, to have since learned the efficacy of munching and tasting in assisting the empirical prescription method, and now recommends it as enthusiastically as do Drs. Van Someren, Higgins, Kellogg, and Dewey. He has even sent patients to a resort in the country in England to acquire the habit of munching where there was present in them the strong pernicious habit of nervous haste and inattention in connection with their ingestion of food.

This is bound to be the case with physicians where the subject is given attention and the method is accorded a fair trial without lapses. Credit for the origination of the suggestion is here taken to increase the effectiveness of the claims presented in the "A. B. – Z. of Our Own Nutrition" and in this book. Readers are recommended not to imitate the prevalent error of thinking that so simple a suggestion is not

important or otherwise scientists would have proclaimed it long before now. The ancient hypotheses of text-book physiology were mainly based upon the study of nutrition, beginning in the stomach, and after the danger of indigestion had been forced upon the alimentary system; and hence they often dealt with confused, abnormal, and pathologic conditions, and they rarely had opportunity to observe the normal condition intended by Nature.

Professor Pawlow, of St. Petersburg, confirmed the necessity of a right psychic environment; Dr. Cannon, of the Harvard Medical School, showed the influence of mechanical thoroughness and nervous shock upon digestion; and Dr. Harry Campbell, of London, explained the mechanical and salival efficacy of mastication in procuring good assimilation of nutriment and an economic nutrition. The work of Professor Pawlow and Dr. Cannon was independent scientific research, and so

was that of Dr. Campbell; but the latter was undoubtedly suggested or stimulated by Dr. Van Someren's presentment of his paper to the British Medical Association. The investigations of Sir Michael Foster, Professor Chittenden, Drs. Higgins, Kellogg, and Dewey were directly inspired by the author in connection with his Venetian colleague, Dr. Ernest Van Someren. The papers, reports, articles, and lectures of these authorities are given in the "A. B. – Z. of Our Own Nutrition," and are repeatedly mentioned in this volume because this book is revised and reissued as an extended explanatory companion of the larger scientific presentation.

In pursuit of true menticulture the personality of the individual should be completely suppressed. He becomes the agent of his inspirations, his revelations, or his altruistic convictions, and as such speaks for the ideas presented, and in no immodest spirit of vain ego-

tism. In descending from the plane of high literary propriety to impress by simile and analogy, the object foremost in mind is to attract a variety of sympathies. The author reveres the dignified in art and in demeanour, and deplores the necessity of personal association to spread the merits of what he believes to be fundamental truths of the philosophy of true living. But so strong is the conviction of the author that he possesses fundamental truths which have been overlooked in the rapid progress of the race in the luxuries of living, that where it is seemingly desirable to employ unusual means to attract attention he feels compelled to do so.

SPECIMEN ECONOMIC DINNER

IN A

SUMPTUOUS MODERN AMERICAN HOTEL

The author was invited to dine with some friends one evening in summer at a hotel in New York, and the invitation concluded with "Menu *à la* Fletcher."

The dinner was to be served in the sitting-room of my host, and when I arrived had not yet been ordered. "You must order the dinner for us," said my host, "and we will agree to your selection." "But I cannot order for any one but myself," said I in reply. "The chief contention I make for natural nutrition is that the appetite is the only true indication of the bodily need, and you must interpret your own appetite both as to estimated quantity required and the sort of food craved."

After some discussion I agreed to stand as go-between and take the symptoms of appetite from each and give the order. The waiter was standing by with pencil in hand and urged a number of expensive dishes that were the specialties of the day. I asked him to "be quiet, please, and let us make our own selection." I first placed the bill of fare in the hands of the daughter of my host and asked her to name the first thing that came into her mind in connection with the order. She replied, "Baked potatoes and —" "Stop," said I; "baked potatoes it is; now it is your turn to choose, R——. What comes first to your mind?" "Green corn," was the answer. "Very well, waiter; one order of baked potatoes, one order of green corn, and a lemon ice. Bring these and we will order more if we require."

The waiter hesitated and was about to protest something when I stopped him with the assurance that the order given was all that we would specify at

first, and that if the service was unusual and caused trouble we would submit to an extra service charge to square accounts.

While the order was being filled there was considerable funmaking, but I would give no explanations. The waiter returned shortly with the order as given, and it was laid out to the accompaniment of a complete dinner utensil service. I asked the young lady to please prepare one of the potatoes in the way she liked best, and this was done by taking the mealy heart out of the jacket and mixing it with butter, salt, and pepper to taste. In the meantime the father had taken an ear of corn and was prepared to enjoy it in response to his appetite the same as he would if he were in the woods with a lumberman's appetite and only corn to be had. The large glass of lemon ice was then placed between us as a "centrepiece." "Aren't you going to take your ice now?" queried the young lady. "Not

now," replied I. "I must attend to your method of taking your potato to see that you do it economic justice, and I must see that your father does not waste any of that delicious corn. Now, Mary, let me see how much good you can munch out of your first mouthful. Do not swallow any of it until it is actually sucked up by the Swallowing Impulse, and when that happens you will note that only a portion of it is taken and the rest will naturally return to the front of the mouth, if you do not restrain it, and will still be a delicious liquid most agreeable to taste." This happened as suggested, and there were three distinct swallowing acts before the last of the mouthful had disappeared in response to the Swallowing Impulse. "My! but I never realised that potato was so good," exclaimed the young lady; and "Gracious! is n't this corn bully!" echoed the father. "Good!" added I. "If that is true of the first mouthful, I think you will find it true of

the other mouthfuls until your appetite for potato and corn is satisfied; and as long as your appetites hold good for them, you are being nourished as your body-needs require." With the slow eating, the appetite of each for the chosen food was soon quieted; one, we will say for illustration of the principle, with a single potato and the other with a single ear of corn. "I think I should relish a little of your second potato if you are not going to take it," said the father, addressing his daughter; and she replied, "Your corn seems nice, father; may I have your second ear in exchange for my potato?" This was agreeable to each, and each partook somewhat of the other's original selection until the appetite of each was so completely satisfied that neither could more than taste a little of my lemon ice as a final delicacy; and as I did not want all of it, the one order sufficed for us. I had breakfasted quite heartily at one o'clock in the afternoon, after having written

several thousand words of correspondence, and really wanted but half the generous portion of ice that had been brought. I had ordered it set into ice-water, after placing it ceremonially as a centrepiece, and it had kept its icy consistency waiting for what I thought was likely to happen.

Both my host and my hostess declared that they had never enjoyed a summer evening meal more, and yet all that was ordered was not consumed, while the cost, for the three, was less than a dollar for the food alone.

The method employed to interpret appetite was a revelation to my friends. They were accustomed to ordering several courses for each person, although they thought they were "small eaters" and economic feeders. Had they ordered for us three without my assistance, the dinner would not have cost less than four or five dollars, and with a plethora of food on the table all would have felt it necessary to eat as

much as possible, in order to get value received.

The above, as related, was an actual happening, but it in no way indicates what another *trio* would have ordered in response to their appetites. That is immaterial. The principle of consulting the leanings of appetite is the thing of first importance, and giving appetite a chance to naturally discriminate is the second natural requirement. Had the weather been cooler, and had the appetite earned been like that of a labouring man, more food and more variety might have been required to satisfy appetite, and hence the needs of the body. In that case, after plying the appetite to repletion on the first dish ordered, a second or a third could easily have been added. With this principle of learning the real demands of appetite, any number of combinations can be had for variety. In summer, with light physical exercise, very little proteid-bearing food is needed; but

in winter, with vigorous exercise or hard physical labour, the appetite will crave foods that have proteid and fat whether one knows what proteid is or the difference between carbohydrate elements and fat. Any empirical idea of the possible elemental requirements is likely to lead to false suggestion and do harm. It is difficult to stand by and let Nature do the ordering if there is too much elemental intelligence, and that is where the animals, when allowed free choice of food, get on better with their nutrition than man himself, and man's only protection is to carefully heed the delicate discrimination of appetite. This is not a difficult thing to do, for appetite can be easily satisfied within a small range of simple foods.

With any desired variety of sumptuous food to choose from, and no restraint from any cause whatever, the author fed himself nine-tenths of the time during the examination at Yale University, in cold winter weather, on

griddle cakes well buttered and accompanied with an abundance of maple syrup. Occasionally more proteid would be demanded, — say once a week, or once in five days, — and then baked beans was the preferential choice.

I am now relating the experiences of a student of hygienic epicureanism and am not considering money economy alone. Were mental or even physical improvement in efficiency to be purchased at high prices, and lack of efficiency could be had for nothing, the high-priced article would be well worth its cost, no matter what it might be, for the reason that total lack of efficiency is equivalent to death and any proportionate lack is the next thing to death. Hence it is not a money economic reform that is being advocated, and this must be borne in mind.

When I am in New York I very often take a room at the Waldorf-Astoria because it has become, by common con-

sent, the suburban and country business and social clearing house of the whole United States; and hence, coming from Europe periodically as I do, and always anxious to meet old friends from San Francisco, New Orleans, Boston, Washington, the great cities of the Middle West, or elsewhere, it is more easily accomplished by camping at the Waldorf than in any other way. I cannot be a profitable guest of this or any hotel kept on the European plan, but I try to make up for this deficiency in other ways. Just across Sixth Avenue from the Waldorf, on Thirty-Fourth Street, is one of the most pretentious of the so-called "dairy lunches." In these places good, appetising, wholesome food is served quickly and in *decently small portions*. For this very reason alone, I *prefer* the crowd and the noise of the dairy lunch to the quiet and the luxury of the Waldorf café or dining-room. One would not object to paying a larger price at the

more quiet place of service, but prodigality seems to be the present great American sin. Were it a mere waste of money or even of the food, it would not be worthy of great discussion; for when the fool and his money are parted the laugh is on him with no grain of sympathy, and there already being a great surplus of food in the land, there is no fear of famine. But with this prodigality prevalent, so that to have a decent variety one must have put before him enough for a family, the temptation to grossly overeat is great and the abuse is criminal.

It is the hope of the author that some enterprising Boldt will inaugurate an epicurean service and charge well enough for it to pay for the trouble, or better yet, in proportion to the quantity wanted. In this regard the poor do not suffer directly, but the example of the rich is the perverter of the poor in many ways, and surely in this item of dietetic abuse.

When it comes to quantities of food to be prescribed, the author avoids giving even suggestions. This has been the trouble with the past attempts at reform. Had Luigi Cornaro told us in his autobiography the manner of taking his food with other particulars, instead of giving alone a maximum weight to which he limited himself, he might have saved the world three hundred years of uncertainty and confusion. His twelve ounces of solid food and fourteen ounces of new wine (fresh grape juice) means little. The solid food might have been almost water free or might have contained 50 per cent of moisture. The new wine contained a trifle of sugar and probably more than 95 per cent of water and supplied moisture to the body instead of water. During the Yale tests reported elsewhere, and more fully in the "A. B. – Z. of Our Own Nutrition," the daily ration did not exceed the reported amount of Cornaro, even with the most generous allowance for moisture.

I have steadily refused to prescribe by weight or quantity or to suggest the best kinds of foods for any one, but there are so many questions arising from the publicity already given by the Yale experiment, that it will do no harm to give some outline.

DIET IN THE YALE EXAMINATION OF THE AUTHOR

In the first place the selection of food for this test is no basis of general choice. The analysis of food for its elemental molecule values, and for its heat content, is a very difficult thing to do and takes much time; hence to bring a large variety into a diet during a test would entail enormous labour on the laboratory staff. Knowing this difficulty, when I was requested to choose something which would entirely satisfy my sense of taste gratification so as to best stimulate the flow of the digestive juices, I chose a cereal with a known content value. That is to say, I fed from different brands of cereals, the content value of which was known. A quart of fresh milk a day furnished the moisture re-

quired, and was not every day entirely consumed. Maple sugar was the most variable ingredient of the diet in regard to quantity. Of the milk I took nearly or quite one quart each day, of the cereal I averaged about 150 grams, or say 5 ounces, and the demand for the sugar varied from 150 grams to 200 grams, or say 5–7 ounces.

This food was taken in at two meals daily, — 12–1 and 6–7 P. M., — and the time required in taking was 12–14 minutes to the meal, including any delay necessitated in taking notes and in weighing the food. These delays were inconsiderable, however, as facilities for weighing and taking notes were perfected and their use well accustomed by the subject. The 26–28 minutes per day, then, may be set down as the careful but industrious eating time required to satisfy the waste and appetite of a man doing 'Varsity Crew work, as reported by Dr. Anderson and Professor Chittenden.

The activity outside the prescribed gymnasium exercises and any supplementary work consisted of awaking very early in the morning and doing considerable writing upon my typewriter. The agitation of this nutrition investigation has involved an immense amount of correspondence to keep the interest stimulated, and for the exchange of information between the interested parties; hence in addition to serving as test-subject, there was always much else to do to keep from getting hopelessly behind in the work.

The writing began anywhere from four to six in the morning in winter, which was the season of the test, and continued until about seven or eight, when the exercises were commenced and continued until finished. Meantime the mail of the morning had come in and frequently demanded immediate attention, which used up the time until between twelve and one o'clock, when a first-class appetite had been earned

(no craving of hunger or "all-goneness" in the common form due to the persistence of habit hunger), and this insured a keen appreciation of taste and fulfilled all the requirements of a healthy digestion. The afternoon was always busy, sometimes with a lengthy walk around town, or a game of billiards when the weather discouraged outside work. The evenings were strenuous or restful, and were usually employed with conversation, reading, or a lecture.

Fortunately the simple food selected continued to be agreeable to the end, and cost an average of only eleven cents per day. When it was given up to accommodate the service furnished by social meals it was missed, the habit of supply having become somewhat fixed and expected by appetite.

In London, in search of the lowest possible economy, the author has subsisted on about half the cost of the Yale supply; and it is entirely possible to those needing strictest economy.

INFLUENCE OF SUGGESTION

A friend of the author, who is an enthusiast in regard to the profitableness of an economic nutrition in assisting the strenuous life, went to lunch with a generous host in New York the other day, when the following conversation about the lunch to be ordered was heard. It partook of Wall-Street brevity, which is thought to be necessary in the rush of a mid-day snack or meal.

"What will you have? What! only a baked potato and a bottle of ginger ale? All right for a starter; but what are you really going to have? Nothing more! what is the matter with you? Come, now; tell me what you want for lunch? Stocks are badly off, but I haven't reached the starvation point yet. Don't treat me like that when I'm trying to treat you right and white. Brace up, old man, and have something to eat."

The intermediate replies can be imagined as in an overheard telephone conversation.

The host ordered for himself, as usual, a portion of tongue and a generous garniture of side dishes, and watched his guest with amused tolerance. The lunch proceeded, interlarded with talk about topics of mutual interest, and when a final halt was called the host had not taken more than one-quarter of his cold tongue and very sparingly of the accompanying side dishes. The guest had finished one of his baked potatoes, and had sipped his ginger ale enjoyingly, but had not taken more than half of the pint ordered. The appetites of both host and guest were amply satisfied, but without any of the heaviness which follows an unrestrained "hearty" meal. In tones of surprise the one-sided conversation, relative to the strangeness of the proceeding, continued as follows: "Well, I'll be switched! How in Wall

Street did that happen! I have n't eaten half my usual lunch, and yet I have killed my appetite deader than the Ship Building Trust. I 'm blessed if I can understand it. The blamed thing is uncanny. I don't believe it 's true, but I 'm satisfied all right even if I am hypnotised. Come and lunch with me every day. You 're engaged as a regular companion boarder, and Freddie will pay the freight. You 're cheaper than nobody. Come again! Come again! ! Come always! ! !"

The above is not an unusual case. The personal influence of the author and of his active colleagues has been visibly noted among parties where there was no sympathy with the "starving fad," and where there was even stubborn opposition to the thought of such a thing. But these same groups of non-interested objectors have visibly decreased their accustomed lunches and dinners, and some of them have found that a cup of coffee and a roll, the

same as is habitually taken in Europe, outside England, serves as a breakfast better than the full meat affair formerly taken. They persist in declaring that they are not influenced by the chewing suggestion, but they show signs of *some* restraining influence, and observation reveals that in such groups the common annual and quarterly attacks of illness are less frequently or less severely suffered.

There is no doubt that Luigi Cornaro gave appreciative attention to his four three-ounce meals a day, and in giving attention properly insalivated his food. The inference is warranted. A man full of vigour and health and constructive energy such as Cornaro reports that he had in unusual abundance is not likely to confront a three-ounce ration of delicious food and proceed to bolt it as a dog bolts a piece of stolen meat. It is a matter of easy observation that a child given a single piece of sugar or sweet in

any form will make it last as long as possible and get all of the taste out of it by most ingenious conservation; but the same child, if offered a box of "goodies" as it is passed around, or whenever the time given for possession of its contents is limited, will show the greed of a predatory or hunted or habitually maltreated animal and will not only grab as much as possible but will cram all possible into his stomach to satisfy the sense of greed, and then usually suffers the consequences of the double sin in the sickening re-taste of the gases of indigestion.

Cornaro undoubtedly made his three-ounce meals last as long as possible in order to enjoy the maximum of taste, and in so doing satisfied the natural requirements of appreciative attention and thorough insalivation. In like manner two small tumblers of the fresh grape juice (new wine — fourteen ounces), which he took as his sapid liquid in the course of a day in con-

nection with his four meals, would allow only a sherry glass quantity to each meal, and with such a limited supply a person is not likely to toss off the liquid in great gulps as water is drunk to satisfy thirst, but it rather would be enjoyed as the wine-tasters enjoy wine, by their sipping practice, in pursuit of their profession. The influence of visible supply or of passing or permanent opportunity of possession is a most powerful suggestion in the cultivation of economy or prodigality, of greed or moderation, of healthy nouriture or plethoric indigestion.

Man was constructed and intended to hunt his food among the grains, nuts, roots, and other fruits of earth, and in hunting food to earn a keen appetite. He found his food scattered and ate it as he found it, with the true appreciation that difficulty of possession gives. In the primitive state the requirements of natural digestion are safeguarded; but with a plethora of

food cooked and spiced and furnished with superfacilities for ingestion, the natural protection of difficulty is removed, and the victims of the luxury drop unconsciously into habits of abuse, like the overeating of to-day.

In order to escape the surrounding temptations it is necessary to have always in mind protective counter-suggestions which intelligently make use of the abundant and easy supply but limit the intake to the needs of the body as expressed by appetite when permitted to discriminate in its natural deliberate manner, and which only keeps pace with the natural dissipation of taste in the process of requisite insalivation. The chewing practice is but a means to this natural end, but it is a most important means, the same now as when teeth were used instead of patent grinders, and when taste took the place of spices and sauces and manufactured its own delights by the chemical action of saliva.

Among the Zuni Indians, observed by even recent travellers, it is the custom of the young girls of the *pueblos* to masticate wheat up to a given point of sweetness of taste and then to withdraw it from the mouth and collect it in a wooden dish until a sufficient quantity is secured, when the jaw-ground and saliva-sweetened "mess" is baked in the sun or by fire and becomes the "sweet cake" of the family. The change of the starch of the wheat or corn into sugary dextrose by the action of saliva, which is necessary to be done somewhere in the alimentary canal before it is assimilable nutriment, gives the sweet-cake quality to the food which is the dietary delicacy of these primitive people. By proper insalivation we perform the delectable service for ourselves instead of having it done for us by good young teeth aided by healthy saliva furnished by beautiful feminine assistance.

"FLETCHERISING" FOOD

WHAT IT REALLY MEANS

The term "Fletcherising," or "Fletcherizing," as applied to food has come into use without the suggestion of the nominee to a new filtering fame, and promises to spread; hence it is well to explain just what the term means.

Under the so-called "Fletcherizing" process, the mouth becomes a filter with most facile appliances for protecting the delicate alimentary canal from straining and poisoning. Instead of the "Pasteur Filter" for the purification of water and the "pasteurisation" of foods by sterilisation, the "Fletcher Filter" both separates and prepares whatever is given it to treat more perfectly than any mechanical or chemical device can do.

Dr. Kellogg appears in evidence often in this volume, and also with much appreciated strength of indorsement in the "A. B. – Z. of Our Own Nutrition"; but it is because he knows the value of the discovery of the natural food filter, has enormous chance to test it practically, and generously assists the reform with the might of his conviction. Hence the author has still another letter of his in hand from which to quote.

"BATTLE CREEK, MICH., Oct. 26, 1903.

"MR. HORACE FLETCHER, NEW YORK.

"DEAR FRIEND: — I have yours of October 4th. I should have answered it before, but have been away from home.

"I appreciate very much your offer to send me a memorandum of the work done in Cambridge, also a plan of the work at Yale. You have had a most interesting experience with eminent physiologists, and it has led you deep into the question of nutrition. I shall appreciate very much suggestions from

you with reference to subjects for experimental work, and other suggestions which may occur to you respecting the methods, etc. I am sure your wide experience will be a great help to us. The more I test your ideas the more confidence I have in them.

"What you say about the wonderful effect of mastication is certainly correct. I observed it right away as soon as I began to practise *Fletcherizing*. By the way, I wrote an article for the last number of my journal, GOOD HEALTH, about "Fletcherizing" food, and I see our colleagues are already taking it up. One of my most able associates, Dr. J. A. Read, who has charge of our sanitarium in Philadelphia, gave a lecture last Thursday night to his patients on "Fletcherizing" food, and his audience was greatly interested. I am sure you deserve to have your name immortalised, as Pasteur's has been. I mention "Fletcherizing" in almost every lecture I give to our

patients. I think most of our patients are "Fletcherizing" and are getting great good from it, also a large proportion of our six hundred nurses and other employees.

"Awaiting a letter of suggestions at your convenience, I remain,

"As ever your friend,

"(Signed) J. H. KELLOGG."

"Fletcherizing" does not consist only and merely of careful chewing. Careful chewing, with cheerful attention, will secure the comminution, insalivation, and all necessary chemical preparation for perfect digestion, and will separate hard and indigestible matter from the food mass put into the mouth for treatment; but it is the whole environment of the act which counts the best results.

Cheerfulness is as important as chewing; and if persons cannot be cheerful during a meal they had better not eat. Not eating will not hurt them in the

least, but lack of cheerfulness will defeat the object of the meal by causing more or less indigestion; and hence it not only *does no good to eat when not cheerful, but actually does harm.* Haste and lack of cheerfulness are about the same in effect on digestion. You have no idea how much real nutriment you can get into your system in five minutes if you are industrious with your munching and are cheerful about it; so don't hurry when you have full ten minutes, or perhaps twenty minutes, for taking nourishment.

You cannot go faster than Nature will let you, and it is profitable to study Nature and watch her constantly for her proper cue. Don't try to get ahead of her or you may sink in mud or into deep water.

Hence the author begs of those who heed his suggestions, especially if they give them his name, to respect them in all their essentials. Don't chew anything when you are mad or when you

are sad, but only when you are glad that you are alive and glad that you have the appetite of a live person and one that is well earned.

That is as much a part of the "Fletcherizing" process as munching, and one should never forget it.

So, please, when you "Fletcherize," if you "Fletcherize" at all, do it well and completely and do not half do it and then condemn the method. The method is all right, notwithstanding the name which has been attached to it, for it is simply Nature's method.

Explanation of The A. B. C. Life Series

THE ESSENTIALS AND SEQUENCE IN LIFE

It would seem a considerable departure from the study of menticulture as advised in the author's book, "Menticulture," to jump at once to an investigation of the physiology and psychology of nutrition of the body and then over to the department of infant and child care and education as pursued in the *crêche* and in the kindergarden; but as a matter of fact, if study of the causation of human disabilities and misfortunes is attempted at all, the quest leads naturally into all the departments of human interest, and first into these primary departments.

The object of this statement is to link up the different publications of the writer into a chain of consistent suggestions intended to make life a more simple

and agreeable problem than many of us too indifferent or otherwise inefficient and bad fellow-citizens make of it.

It is not an altogether unselfish effort on the part of the author of the A. B. C. Life Series to publish his findings. In the consideration of his own mental and physical happiness it is impossible to leave out environment, and all the units of humanity who inhabit the world are part of his and of each other's environment.

It would be rank presumption for any person, even though gifted with the means to circulate his suggestions as widely as possible, and armed with the power to compel the reading of his publications, to think that any suggestions of his could influence any considerable number of his fellow-citizens of the world, or even of his own immediate neighbourhood, to accept or follow his advice relative to the management of their lives and of their communal and national affairs; but while the general and complete good of humanity should be aimed at in all publications, one's immediate neighbours and friends

come first, and the wave of influence spreads according to the effectiveness of the ideas suggested in doing good; that is, in altering the point of view and conduct of people so as to make them a better sympathetic environment.

For instance, the children of your neighbours are likely to be the playmates of your own children, and the children of degenerate parents in the slum district of your city will possibly be the fellow-citizen partners of your own family. Again, when it is known that right or wrong nutrition of the body is the most important agent in forming character, in establishing predisposition to temperance or intemperance of living, including the desire for intoxicating stimulants, it is revealed to one that right nutrition of the community as a whole is an important factor in his own environment, as is self-care in the case of his own nourishment.

The moment a student of every-day philosophy starts the study of problems from the A. B. C. beginning of things, and to shape his study according to an

A. B. C. sequence, each cause of inharmony is at once traced back to its first expression in himself and then to causes influenced by his environments.

If we find that the largest influences for good or bad originate with the right or wrong instruction of children during the home training or kindergarden period of their development, and that a dollar expended for education at that time is worth more for good than whole banes of courts and whole armies of police to correct the effect of bad training and bad character later in life, it is quite logical to help promote the spread of the kindergarden or the kindergarden idea to include all of the children born into the world, and to furnish mothers and kindergarden teachers with knowledge relative to the right nutrition of their wards which they can themselves understand and can teach effectively to children.

If we also find that the influence of the kindergarden upon the parents of the infants is more potent than any other which can be brought to bear upon them, we see

clearly that the way to secure the widest reform in the most thorough manner is to concentrate attention upon the kindergarden phase of education, advocate its extension to include even the last one of the children, beginning with the most needy first, and extending the care outward from the centre of worst neglect to finally reach the whole.

Experience in child saving so-called, and in child education on the kindergarden principle, has taught the cheapest and the most profitable way to insure an environment of good neighbours and profit-earning citizens; and investigation into the problem of human alimentation shows that a knowledge of the elements of an economic nutrition is the first essential of a family or school training; and also that this is most impressive when taught during the first ten years of life.

One cannot completely succeed in the study of menticulture from its A. B. C. beginning and in A. B. C. sequence without appreciation of the interrelation of the physical and the mental, the personal

and the social, in attaining a complete mastery of the subject.

The author of the A. B. C. Life Series has pursued his study of the philosophy of life in experiences which have covered a great variety of occupations in many different parts of the world and among peoples of many different nations and races. His first book, "Menticulture," dealt with purging the mind and habits of sundry weaknesses and deterrents which have possession of people in general in some degree. He recognised the depressing effect of anger and worry and other phases of *fearthought.* In the book "Happiness," which followed next in order, *fearthought* was shown to be the unprofitable element of forethought. The influence of environment on each individual was revealed as an important factor of happiness, or the reverse, by means of an accidental encounter with a neglected waif in the busy streets of Chicago during a period of intense national excitement incident to the war with Spain, and this led to the publication

of "That Last Waif; or, Social Quarantine." During the time that this last book was being written, attention to the importance of right nutrition was invited by personal disabilities, and the experiments described in "Glutton or Epicure; or, Economic Nutrition" were begun and have continued until now.

In the study of the latter, but most important factor in profitable living, circumstances have greatly favoured the author, as related in his latest book, "The A. B.–Z. of Our Own Nutrition."

The almost phenomenal circulation of "Menticulture" for a book of its kind, and a somewhat smaller interest in the books on nutrition and the appeal for better care of the waifs of society, showed that most persons wished, like the author, to find a short cut to happiness by means of indifference to environment, both internal and external, while habitually sinning against the physiological dietetic requirements of Nature. In smothering worry and guarding against anger the psychic assistance of digestion was stimu-

lated and some better results were thereby obtained, but not the best attainable results.

Living is easy and life may be made constantly happy by beginning right; and the right beginning is none other than the careful feeding of the body. This done there is an enormous reserve of energy, a naturally optimistic train of thought, a charitable attitude towards everybody, and a loving appreciation of everything that God has made. Morbidity of temperament will disappear from an organism that is economically and rightly nourished, and death will cease to have any terrors for such; and as *fear* of death is the worst depressant known, many of the *worries* of existence take their everlasting flight from the atmosphere of the rightly nourished.

The wide interest now prevalent in the subjects treated in The A. B. C. Life Series is evidenced by the scientific, military, and lay activity, in connection with the experiments at the Sheffield Scientific School of Yale University and elsewhere,

as related in the "A. B.–Z. of Our Own Nutrition" and in "The New Glutton or Epicure" of the series.

The general application is more fully shown, however, by the indorsement of the great Battle Creek Sanitarium, which practically studies all phases of the subject, from health conservation and child saving to general missionary work in social reform.

HORACE FLETCHER.

Instructions Issued by the United States Army Medical Department for the Students of the Army Medical Schools

Method of attaining economic assimilation of nutriment and immunity from disease, muscular soreness, and fatigue

1. Feed only when a distinct appetite has been earned.

2. Masticate all solid food until it is completely liquefied and excites in an irresistible manner the swallowing reflex or swallowing impulse.

3. Attention to the act of mastication and insalivation, and appreciation of the taste thereby secured, are necessary, meantime, to excite the flow of gastric juice into the stomach to meet the food, as demonstrated by Pawlow.

4. Strict attention to these two particulars will fulfil the requirements of Nature relative to the preparation of the food for digestion and assimilation; and this being faithfully done, the automatic processes of digestion and assimilation will proceed most profitably and will result in discarding very little digestion-ash (feces) to encumber the intestines or to compel excessive draft upon the bodily energy for excretion.

5. The evidence of this economy is observed in the small amount of excreta and its peculiar, inoffensive character, showing escape from putrid bacterial digestion such as brings indol and skatol into evidence offensively.

6. When the digestion and assimilation has been normally economic the digestion-ash should be formed into little balls ranging in size from a pea to a so-called Queen Olive, according to the food taken, should be quite dry, and have only the odour of moist clay or a hot biscuit. This inoffensive character remains indefinitely after excretion until the ash completely dries or disintegrates like rotten stone or wood.

7. The weight of the digestive-ash should range (moist) from 10 grams a day to not more than 40–50 grams a day, according to the food; the latter estimate being based on a vegetarian diet and may not call for excretion for many days (3 to 8); infrequency indicating best conditions. The asceptic condition of the excreta renders retention in the intestines quite harmless and gives opportunity for perfect assimilation of the nutriment.

8. Fruits may hasten peristalsis, but not necessarily, if they are thoroughly treated in the mouth as sapid liquids rather than as solids, and are insalivated, sipped, tasted, into absorption in the same way wine tasters test and take wine and tea tasters test tea. The latter spit out the tea after tasting, as otherwise it vitiates their taste and ruins them for their discriminating profession.

9. Milk, soups, wines, beer, and all sapid liquids or semi-solids should be treated in this manner for the best assimilation and digestion as well as for the best gustatory results. The care recommended will reduce the quantity tolerable by the appetite and lead to habits of healthy temperance, but secures maximum satisfaction.

10. This would seem to entail a great deal of care and bother and lead to the waste of time.

11. Such, however, is not the case. To restore the natural protective reflexes in the beginning does require strict attention and persistent care to overcome life-long habits of nervous haste, but if the attack is earnest the habits of mouth-treatment and appetite discrimination soon become fixed and guides the deliberation in taking food unconsciously to the feeder.

12. Food of a proteid value of 5–7 grams of nitrogen and 1500–2000 k. calories of fuel value, paying strict attention to the appetite for selection and carefully treated in the mouth, has been found to be the quantity best suited to metabolic economy and efficiency of both mind and body in sedentary pursuits and ordinary business activity; and, also, such habits of economy has given practical immunity from the common diseases for a period extending over more than five years, whereas the same subject was formerly subject to periodical illness. The same economy and immunity have shown themselves consist-

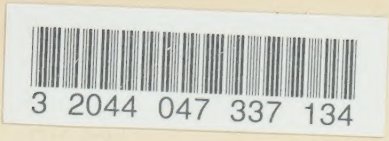
ently in the cases of many test subjects, covering periods of three years, and applies equally to both sexes, all ages, and other idiosyncratic conditions.

13. The time necessary for satisfying complete body needs and appetite daily, when the habit of attention, appreciation, and deliberation have been installed, is less than half an hour, no matter how divided as to number of rations. This necessitates industry of mastication, to be sure, and will not admit of waste of much time between mouthfuls.

14. Ten minutes will completely satisfy a ravenous appetite if all conditions of ingestion and preparation are favourable.

15. Both quantitive and qualitive supply of saliva is an important factor in buccal (mouth) preparation of nutriment, but attention to these fundamental requirements soon regulates the supply of all of the digestive juices, and, in connection with the care recommended above, insures economy of nutrition, and, probably, immunity from disease.

(Signed) HORACE FLETCHER.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THE NEW GLUTTON OR EPICURE

by

Horace Fletcher

A.B.C. Life Series